EO 29 Nov 66 See C1
23 NOV 66
EMFO LIBRARY

TM 11-6625-639-45

Mt 11-28-66

DEPARTMENT OF THE ARMY TECHNICAL MANUAL

C1

EMFO LIBRARY F-13

GS AND DEPOT MAINTENANCE MANUAL

TEST SET, POWER SUPPLY AN/FPM-26

EMFO LIBRARY

HEADQUARTERS, DEPARTMENT OF THE ARMY

AUGUST 1966

WARNING

Be careful when working on the 150-volt ac line, and the +150-, +300-, +275-, –275-, +400-volt dc circuits. Serious injury or death may result from contact with these voltages.

DON'T TAKE CHANCES!

THE FOLLOWING EXTREMELY DANGEROUS VOLTAGES EXIST IN TEST SET, POWER SUPPLY AN/FPM–26, WHEN POWER SUPPLY PP–3743/FPA IS UNDER TEST:

+1, 650 volts, –6, 400 volts

EO 30 Jan 68
310-4
EMFO LIBRARY

TM 11-6625-639-45
*C 1

CHANGE
No. 1

25 JAN 1968

HEADQUARTERS
DEPARTMENT OF THE ARMY
WASHINGTON, D.C., *15 November 1967*

GS and Depot Maintenance Manual
Including Repair Parts and Special Tools List

TEST SET, POWER SUPPLY AN/FPM-26

TM 11-6625-639-45, 25 August 1966, is changed as follows:

The title of the manual is changed as shown above.

Page 1-1, paragraph 1-1, subparagraph *b*. Delete all reference to TM 11-6625-639-20P and TM 11-6625-639-45P.

Subparagraph *c*. Delete and substitute:

c. Report of errors, omissions, and recommendations for improving this manual by the individual user is encouraged. Reports should be submitted on DA Form 2028 (Recommended Changes to DA Publications) and forwarded direct to Commanding General, U.S. Army Electronics Command, ATTN: AMSEL-ME-NMP-AD, Fort Monmouth, N.J. 07703.

Paragraph 1-2. Delete and substitute:

1-2. Index of Publications

Refer to the latest issues of DA Pam 310-4 and DA Pam 310-7 to determine whether there are new editions, changes, or additional publications pertaining to the equipment.

Page A-1, appendix. Designate existing appendix as appendix A. Eighth line. Add "(CM)" before TM 11-5840-263-35. Ninth line. Add "(U)" after AN/FPA-16. Delete TM 11-6625-639-20P and TM 11-6625-639-45P in their entirety.

* This change together with C 1, 15 November 1967, of TM 11-6625-639-12, 12 October 1965, supersedes TM 11-6625-639-25P, 11 May 1966.

Add appendix B after appendix A.

APPENDIX B

GENERAL SUPPORT AND DEPOT REPAIR PARTS

Section I. INTRODUCTION

B-1. General

This appendix contains a list of repair parts required for the performance of general support and depot maintenance for Test Set, Power Supply AN/FPM-26.

Note. No special tools, test, and support equipment are required.

B-2. Explanation of Sections

This repair parts list is divided into four principal sections.

a. Repair Parts for Direct Support, General Support, and Depot Maintenance—Section II. A list of repair parts authorized for the performance of maintenance at general support and depot categories. No parts are authorized for stockage at direct support category.

b. Federal Stock Number Cross Reference to Index Number—Section III. An index of Federal stock numbers to index numbers.

c. Figure and Item Number Cross Reference to Index Number—Section IV. An index of illustrated items to line items by index numbers. The line item index numbers appear in the SMR code column of the repair parts list directly under the code letters in ascending sequence, for each item. The index number for an item will be the same for that item in all repair parts lists for this equipment.

d. Reference Designation Cross Reference to Index Number—Section V. An index of reference designations to index numbers.

B-3. Explanation of Columns

The following is an explanation of the columns in section II.

a. Source, Maintenance, and Recoverability Codes (SMR), Column 1. The first column on the left of the repair parts list contains the source, maintenance, and recoverability (SMR) codes, where applicable, and an index number listed directly below the SMR codes in ascending order. The index number is related to automatic data processing in supply functions, but may also be used as a locator for the line item, when reference designations are not in alphanumerical sequence. The SMR codes used in this list are—

(1) *Source code.* The source code is the letter appearing on the left in the SMR column. It indicates the source from which the item is obtained in accordance with the following:

Code	*Explanation*
P	applies to repair parts that are stocked in or supplied from the GSA/DSA, or Army supply system, and authorized for use at indicated maintenance categories.
M	applies to repair parts that are not procured or stocked but are to be manufactured at indicated maintenance categories.
A	applies to assemblies that are not procured or stocked as such but are made up of two or more units, each of which carries an individual stock number and description and is procured and stocked and can be assembled by units at indicated maintenance categories.
X	applies to parts and assemblies that are not procured or stocked; the mortality of which normally is below that of the applicable end item; and the failure of which should result in retire-

Code	Explanation
	ment of the end item from the supply system.
X2	—applies to repair parts that are not stocked. The indicated maintenance category repairing such repair parts will attempt to obtain such parts through cannibalization. If they are not obtainable through cannibalization, such repair parts will be requisitioned with supporting justification through normal supply channels.
C	—applies to repair parts authorized for local procurement. If such parts are not obtainable from local procurement, they will be requisitioned through normal supply channels with a supporting statement of nonavailability from local procurement.

(2) *Maintenance code.* The maintenance code is the letter appearing in the center of the SMR column. It indicates the lowest category of maintenance authorized to install the listed item. The codes are—

Code	Explanation
O	Organizational Maintenance
H	General Support Maintenance
D	Depot Maintenance

(3) *Recoverability code.* The right-hand letter in the SMR column indicates whether the item should be returned for recovery or salvage. Recoverability code is—

Note. When no code is indicated in the recoverability column, the part will be considered expendable.

Code	Explanation
R	—applies to repair parts and assemblies which are economically repairable at DSU and GSU activities and normally are furnished by supply on an exchange basis.

b. Federal Stock Number, Column 2. The Federal stock number for the item is indicated in this column.

c. Description, Column 3. This column indicates the Federal item name and any additional description of the item required. A part number or other reference number is followed by the applicable five-digit Federal Supply Code for Manufacturers. When an item is repeated several times in the list, only the first appearance carries a description. For subsequent appearances of the item, the description column will read "Same as" followed by the index number of the first appearance; for example, RESISTOR, FIXED COMPOSITION: SAME AS A298. Usable on code column is not used.

d. Unit of Issue, Column 4. The unit used as a basis of issue (e.g. ea, pr, ft, yd, etc.) is noted in this column.

e. Quantity Incorporated in Unit Pack, Column 5. Not used.

f. Quantity Incorporated in Unit, Column 6. The quantity of repair parts in an assembly is indicated in this column.

g. Maintenance Allowances, Columns 7 and 8.

(1) The allowance columns are divided into subcolumns. The total quantity of items authorized for the number of equipments supported is indicated in each subcolumn opposite the first appearance of each item. Subsequent appearances of the same item will have no entry in the allowance columns but will have a reference, in the description column, to the first appearance of the item. Items authorized for use as required but not for initial stockage are identified with an asterisk (*) in the allowance column.

(2) The quantitative allowances for GS category of maintenance will represent initial stockage for a 30-day period for the number of equipments supported.

h. One-Year Allowances Per 100 Equipments/Contingency Planning Purposes, Column 9. Opposite the first appearance of each item, the total quantity required for distribution and contingency planning purposes is indicated. The range of items indicates total quantities of

all authorized items required to provide for adequate support of 100 equipments for 1 year.

i. Depot Maintenance Allowance Per 100 Equipments, Column 10. This column indicates the total quantity of each item authorized depot maintenance for 100 equipments. Subsequent appearances of the same item will have no entry in this column, but will have a reference in the description column to the first appearance of the item.

j. Illustrations, Column 11.

(1) *Figure number, column 11a.* The figure number of the illustration in which the item is shown is indicated in this column.

(2) *Item or symbol number, column 11b.* The callout number used to reference the item in the illustration is indicated in this column.

B–4. Location of Repair Parts

a. This manual contains three cross-reference indexes (sect III, IV, and V), to be used to locate a repair part when either the Federal stock number, reference number (manufacturer's part number), figure number, or reference designation and/or item number is known. The first column in each cross-reference index is prepared, as applicable, in numerical or alphanumerical sequence. The last column of each cross-reference index lists the index number assigned to the part.

b. Refer to the appropriate cross-reference index (para 2*b*, *c*, *d*) and note the index number in the last column; then refer to the repair parts list to locate the index number which is listed in ascending order in column 1 of the repair parts list.

B–5. Federal Supply Codes

This paragraph lists the Federal supply code and the associated manufacturer's name

Code number	*Manufacturer's name*
80063	Army Electronics Command Procurement and Production Directorate
81349	Military Specifications
88044	Aeronautical Standards Group Dept of Navy and Air Force
96906	Military Standards

(1) SMR CODE / INDEX NO.	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION / REFERENCE NUMBER & MFR. CODE / USABLE ON CODE	(4) UNIT OF ISSUE	(5) QTY INC IN UNIT PACK	(6) QTY INC IN UNIT	(7) 30-DAY DS MAINT ALLOWANCE (a) 1-20	(b) 21-50	(c) 51-100	(8) 30-DAY GS MAINT ALLOWANCE (a) 1-20	(b) 21-50	(c) 51-100	(9) 1 YR ALW PER EQUIP CNTGCY	(10) DEPOT MAINT ALW PER 100 EQUIP	(11) ILLUSTRATIONS (a) FIG NO.	(b) ITEM NO. OR REFERENCE DESIGNATION
A-O-R A001	6625-905-7159	TEST SET, POWER SUPPLY AN/FPM-26: SMD536471; 80063 (This item is nonexpendable)	ea											1-1	
A-O-R A002	6625-903-3497	TEST SET, POWER SUPPLY TS-2040/FPM-26; SMD536492; 80063	ea		1									1-1	
X-D A003	6625-903-3496	CASE, TEST SET CY-4215/FPM-26: SMD536474-2; 80063	ea		1									1-1	
X-D A004	6625-908-4828	COVER, TEST SET CW-736/FPM-26: SMD536474-1; 80063	ea		1									1-1	
M-D A004A		CHART, CONTENTS: SMC552831; 80063	ea		1										
P-H A004B	5920-926-7435	FUSEHOLDER: FH25AM; 81349	ea		1				*	*	*	1	4		
M-D A004C		PLATE, IDENTIFICATION: SMC536659-7; 80063	ea		1										
X-D A005	6625-908-4833	COVER, TEST SET CW-737/FPA: SMD536474-3; 80063	ea		1									1-1	
P-O A006	5920-681-4998	FUSE, CARTRIDGE: SMB536899; 80063	ea		1				*	*	*	5	25	2-4	F1
M-D A008		BRACKET, ANGEL: SMC536529-1; 80063	ea		10										
C-D A009		BRACKET, CAPACITOR MOUNTING: CP072SE5; 81349	ea		4										
M-D A010		BRACKET, TERMINAL BOARD: SMC536629-1; 80063	ea		4										
C-D A011		BRACKET ASSEMBLY, RESISTOR: MS75009-37; 96906	ea		2										
C-D A012		BRACKET ASSEMBLY, RESISTOR: MS75009-38; 96906	ea		2										
C-D A013		BRACKET ASSEMBLY, RESISTOR: MS75009-47; 96906	ea		8										
P-H A014	5910-227-0293	CAPACITOR, FIXED, ELECTROLYTIC: CE41C401H; 81349	ea		3				*	*	*	3	8	2-2	C3, C4, C6
P-H A015	5910-683-7397	CAPACITOR, FIXED, PAPER: CP10A1EE10SM1; 81349	ea		1				*	*	*	1	4	2-2	C1
P-H A016	5910-112-6903	CAPACITOR, FIXED, PAPER: CP70E1EG106K1; 81349	ea		2				*	*	*	2	5	2-2	C8, C10
X-D A017		CHASSIS, ELECTRICAL EQUIPMENT: SMD536617; 80063	ea		1										
M-D A018		BUSHING: SMD536617-5; 80063	ea		2										
C-D A019		EYELET, METALLIC: SMB536574-1; 80063	ea		1										
C-D A020		NUT, SELF-LOCKING, CLINCH: SMC536656-1; 80063	ea		13										
C-D A021		NUT, SELF-LOCKING, CLINCH: SMC536657-3; 80063	ea		8										
C-D A022		NUT, SELF-LOCKING, CLINCH: SMC536657-1; 80063	ea		7										
C-D A023		NUT, SELF-LOCKING, CLINCH: SMC536657-2; 80063	ea		15										
C-D A024		RECEPTACLE, TURNLOCK FASTENER: SMB536628; 80063	ea		4										
C-D A025		RIVET, SOLID: MS20426A3-4; 96906	ea		8										
C-D A026		RIVET, SOLID: MS20426A3-9; 96906	ea		8										

(1) SMR CODE / INDEX NO.	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION / REFERENCE NUMBER & MFR. CODE / USABLE ON CODE	(4) UNIT OF ISSUE	(5) QTY INC IN UNIT PACK	(6) QTY INC IN UNIT	(7) 30-DAY DS MAINT ALLOWANCE (a) 1-20	(b) 21-50	(c) 51-100	(8) 30-DAY GS MAINT ALLOWANCE (a) 1-20	(b) 21-50	(c) 51-100	(9) 1 YR ALW PER EQUIP CNTGCY	(10) DEPOT MAINT ALW PER 100 EQUIP	(11) ILLUSTRATIONS (a) FIG NO.	(b) ITEM NO. OR REFERENCE DESIGNATION
X-D A027		CHASSIS, ELECTRICAL EQUIPMENT: SMD536611; 80063	ea		1										
P-H A028	5950-945-6517	REACTOR: SMC536647; 80063	ea		2				*	*	*	2	5	2-2	L1, L2
P-H A029	5925-926-8362	CIRCUIT BREAKER: SMC536526-2; 80063	ea		1				*	*	*	1	4	2-1	CB1
C-D A030		CLIP, SPRING TENSION: SMC536587-1; 80063	ea		1										
P-H A032	5935-801-6616	CONNECTOR, RECEPTACLE, ELECTRICAL: MS3102R14S-7P; 96906	ea		1				*	*	*	1	4	2-1	J2
P-H A033	5935-806-4588	CONNECTOR, RECEPTACLE, ELECTRICAL: MS3102R16-10P; 96906	ea		1				*	*	*	1	4	2-1	J1
P-H A034	5935-836-3345	CONNECTOR, RECEPTACLE, ELECTRICAL: MS3102R28-1S; 96906	ea		1				*	*	*	1	4	2-2	J3
P-H A035	5935-642-4137	CONNECTOR, RECEPTACLE, ELECTRICAL: SMB536654-1; 80063	ea		1				*	*	*	1	4	2-2	J5
X-D A038		COVER, TEST SET: SMD536602; 80063	ea		1										
X-D A039		COVER, TEST SET: SMD536602-1; 80063	ea		1										
C-D A040		STUD, TURNLOCK FASTENER: SMB536513; 80063	ea		8										
C-D A041		WASHER, RETAINING: SMB536693; 80063	ea		8										
P-H A041A	5935-933-3376	DUMMY CONNECTOR, PLUG: SMB552836; 80063	ea		1				*	*	*	1	4	2-2	
P-H A041B	5975-231-5894	ADAPTER, CONNECTOR: AN3055-28-10; 88044	ea		1				*	*	*	1	4	2-2	
P-H A041C	5935-222-7789	CONNECTOR PLUG, ELECTRICAL: MS3106A28-1P; 96906	ea		1				*	*	*	1	4	2-2	P1
P-H A041D	5935-581-4558	COVER, ELECTRICAL CONNECTOR: MS25043-16C; 96906	ea		1				*	*	*	1	4		
P-H A042	4140-684-0508	FAN, AXIAL: SMD536569; 80063	ea		1				*	*	*	1	4		
C-D A043		FERRULE, HANDLE: SMB536539; 80063	ea		4										
P-H A044	4130-947-9680	FILTER, AIR CONDITIONER: SMB536627; 80063	ea		1				*	*	*	1	4		
P-H A045	5915-539-7590	FILTER, RADIO INTERFERENCE: SMC536561-2; 80063	ea		2				*	*	*	2	5	2-2	FL1, FL2
P-H A047	5920-824-1515	FUSEHOLDER: FHL12U; 81349	ea		1				*	*	*	1	4	2-1	XF1
P-H A048	5330-930-4357	GASKET: SMB536626; 80063	ea		1				*	*	*	1	4		
C-D A049		HANDLE, BOW: SMB536527-1; 80063	ea		2										
C-D A050		INSULATOR, BUSHING: NL422W20-008; 81349	ea		10										
C-D A051		INSULATOR, WASHER: SMB536695; 80063	ea		14										
P-H A052	5935-615-7017	JACK, TIP: MS16108-2B; 96906	ea		20				*	*	*	20	33	2-1	J9, J11 thru J19, J22, J23, J24, J26, J27, J31 thru J34, J37

(1) SMR CODE / INDEX NO.	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION / REFERENCE NUMBER & MFR. CODE / USABLE ON CODE	(4) UNIT OF ISSUE	(5) QTY INC IN UNIT PACK	(6) QTY INC IN UNIT	(7) 30-DAY DS MAINT ALLOWANCE (a) 1-20	(b) 21-50	(c) 51-100	(8) 30-DAY GS MAINT ALLOWANCE (a) 1-20	(b) 21-50	(c) 51-100	(9) 1 YR ALW PER EQUIP CNTGCY	(10) DEPOT MAINT ALW PER 100 EQUIP	(11) ILLUSTRATIONS (a) FIG NO.	(b) ITEM NO. OR REFERENCE DESIGNATION
P-H A053	5935-617-2193	JACK, TIP: MS16108-3B; 96906	ea		6				*	*	*	6	13	2-1	J10, J21, J28, J29, J36, J38
P-O A054	5355-994-3435	KNOB: MS91528-1E2B; 96906	ea		1				*	*	*	1	4	2-4	
P-O A055	5355-556-0145	KNOB: MS91528-1K2B; 96906	ea		7				*	*	*	7	15	2-4	
P-O A056	6240-682-3411	LAMP, GLOW: NE51H; 81349	ea		7				*	*	*	7	15	2-4	DS1, DS2, DS3, DS4, DS6, DS9, DS10
P-O A057	6240-155-8706	LAMP, INCANDESCENT: MS15571-2; 96906	ea		3				*	*	*	3	8	2-4	DS5, DS7, DS8
P-H A058	6210-836-2564	LAMPHOLDER: LH75; 81349	ea		3				*	*	*	3	8	2-3	XDS5, XDS7, XDS8
P-H A059	6250-051-5978	LAMPHOLDER: LH78; 81349	ea		7				*	*	*	7	15	2-3	XDS1 thru XDS4, XDS6, XDS9, XDS10
P-O A060	6210-067-8381	LENS, INDICATOR LIGHT: LC16RN; 81349	ea		3				*	*	*	3	8	2-4	
P-O A061	6210-045-7658	LENS, INDICATOR LIGHT: LC20RN; 81349	ea		7				*	*	*	7	15	2-4	
C-D A062	5310-687-6293	NUT, PLAIN, HEX: MS35649-22; 96906	ea		8										
C-D A063	5310-013-4524	NUT, PLAIN, HEX: MS35649-42; 96906	ea		2										
C-D A064	5310-013-4530	NUT, PLAIN, HEX: MS35649-62; 96906	ea		12										
C-D A065	5310-012-0622	NUT, PLAIN, HEX: MS35649-82; 96906	ea		4										
C-D A066	5310-012-0614	NUT, PLAIN, HEX: MS35650-102; 96906	ea		8										
C-D A067		NUT, PLAIN, HEX: MS51968-1; 96906	ea		1										
C-D A068	5310-088-0551	NUT, SELF-LOCKING, HEX: MS21044N04; 96906	ea		8										
C-D A069		NUT, SELF-LOCKING, HEX: MS21044N06; 96906	ea		9										
C-D A070		NUT, SELF-LOCKING, HEX: MS21044N08; 96906	ea		16										
C-D A071	5310-877-5797	NUT, SELF-LOCKING, HEX: MS21004N3; 96906	ea		4										
M-D A072		PANEL, GUARD: SMB-536610; 80063	ea		1										
X-D A073		PANEL, HIGH VOLTAGE ASSEMBLY, FRONT: SMD536614; 80063	ea		1										
X-D A074		PANEL, FRONT: SMD536614-1; 80063	ea		1										
C-D A075		NUT, SELF-LOCKING, CLINCH: SAME AS A021	ea		10										
C-D A076		NUT, SELF-LOCKING, CLINCH: SAME AS A023	ea		5										
C-D A077		RECEPTACLE, TURNLOCK, FASTENER: SAME AS A024	ea		2										
C-D A078		RIVET, SOLID: SAME AS A025	ea		4										
X-D A079		PANEL, HIGH VOLTAGE ASSEMBLY, SIDE: SMD536604; 80063	ea		1										
C-D A080		NUT, SELF-LOCKING, CLINCH: SAME AS A021	ea		8										

(1) SMR CODE / INDEX NO.	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION / REFERENCE NUMBER & MFR. CODE / USABLE ON CODE	(4) UNIT OF ISSUE	(5) QTY INC IN UNIT PACK	(6) QTY INC IN UNIT	(7) 30-DAY DS MAINT ALLOWANCE (a) 1-20	(b) 21-50	(c) 51-100	(8) 30-DAY GS MAINT ALLOWANCE (a) 1-20	(b) 21-50	(c) 51-100	(9) 1 YR ALW PER EQUIP CNTGCY	(10) DEPOT MAINT ALW PER 100 EQUIP	(11) ILLUSTRATIONS (a) FIG NO.	(b) ITEM NO. OR REFERENCE DESIGNATION
C-D A081		NUT, SELF-LOCKING, CLINCH: SAME AS A023	ea		3										
X-D A082		PANEL, SIDE: SMD536604-1; 80063	ea		1										
C-D A083		RECEPTACLE, TURNLOCK, FASTENER: SAME AS A024	ea		2										
C-D A084		RIVET, SOLID: SAME AS A025	ea		4										
M-D A085		PANEL, RESISTOR MOUNTING: SMD536600; 80063	ea		1										
C-D A086		NUT, SELF-LOCKING, CLINCH: SAME AS A021	ea		8										
C-D A087		NUT, SELF-LOCKING, CLINCH: SAME AS A023	ea		8										
X-D A088		PANEL, RESISTOR MOUNTING: SMD536600-1; 80063	ea		1										
X-D A089		PANEL ASSEMBLY, FRONT: SMD536619; 80063	ea		1										
C-D A090		NUT, PLAIN, CLINCH: SMC536543-4; 80063	ea		16										
X-D A091		PANEL, FRONT: SMD536619-1; 80063	ea		1										
M-D A092		PLATE, DESIGNATION: SMB536612; 80063	ea		1										
M-D A093		PLATE, DESIGNATION: SMB536663; 80063	ea		1										
M-D A094		PLATE, IDENTIFICATION: SMC536659-2; 80063	ea		1										
P-H A095	5940-827-8863	TERMINAL, STUD: SMB536528; 80063	ea		1				*	*	*	1	4		
P-H A096	5945-724-8457	RELAY, THERMAL: SMC536588; 80063	ea		1				*	*	*	1	4	2-2	K1
P-H A097	5945-833-6657	RELAY, ARMATURE: SMC536560; 80063	ea		1				*	*	*	1	4	2-2	K2
P-H A098	5905-926-0509	RESISTOR, FIXED, FILM: SMC536568-5; 80063	ea		5				*	*	*	5	12	2-2	R53, R54, R79, R81, R82
P-H A099	5905-837-8621	RESISTOR, FIXED, WIRE WOUND: RW20V101; 81349	ea		1				*	*	*	1	4	2-1	R1
P-H A100	5905-556-7370	RESISTOR, FIXED, WIRE WOUND: RW20V502 81349	ea		1				*	*	*	1	4	2-1	R7
P-H A101	5905-687-2121	RESISTOR, FIXED, WIRE WOUND: RW21G153; 81349	ea		1				*	*	*	1	4	2-1	R17
P-H A102	5905-882-1878	RESISTOR, FIXED, WIRE WOUND: RW32V152; 81349	ea		1				*	*	*	1	4	2-1	R8
P-H A103	5905-945-3899	RESISTOR, FIXED, WIRE WOUND: RW21V4R3; 81349	ea		1				*	*	*	1	4	2-2	R90
P-H A104	5905-946-6173	RESISTOR, FIXED, WIRE WOUND: RW21V752 81349	ea		1				*	*	*	1	4	2-1	R30
P-H A105	5905-926-0382	RESISTOR, FIXED, WIRE WOUND: RW22G133; 81349	ea		1				*	*	*	1	4	2-1	R28
P-H A106	5905-926-0413	RESISTOR, FIXED, WIRE WOUND: RW22G912; 81349	ea		2				*	*	*	2	5	2-1	R9, R11
P-H A107	5905-852-2011	RESISTOR, FIXED, WIRE WOUND: RW22V182; 81349	ea		3				*	*	*	3	8	2-1	R114, R116, R117
P-H A108	5905-900-9831	RESISTOR, FIXED, WIRE WOUND: RW22V432; 81349	ea		1				*	*	*			2-1	R27
P-H A109	5905-926-8451	RESISTOR, FIXED, WIRE WOUND: RW24V911; 81349	ea		1				*	*	*	1	4	2-1	R119

(1) SMR CODE / INDEX NO.	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION / REFERENCE NUMBER & MFR. CODE / USABLE ON CODE	(4) UNIT OF ISSUE	(5) QTY INC IN UNIT PACK	(6) QTY INC IN UNIT	(7) 30-DAY DS MAINT ALLOWANCE (a) 1-20	(b) 21-50	(c) 51-100	(8) 30-DAY GS MAINT ALLOWANCE (a) 1-20	(b) 21-50	(c) 51-100	(9) 1 YR ALW PER EQUIP CNTGCY	(10) DEPOT MAINT ALW PER 100 EQUIP	(11) ILLUSTRATIONS (a) FIG NO.	(b) ITEM NO. OR REFERENCE DESIGNATION
P-H A110	5905-881-9462	RESISTOR, FIXED, WIRE WOUND: RW37V240; 81349	ea		2				*	*	*	2	5	2-2	R92, R94
P-H A111	5905-850-9072	RESISTOR, FIXED, WIRE WOUND: RW38V160; 81349	ea		1				*	*	*	1	4	2-2	R91
P-H A112	5905-988-4379	RESISTOR, FIXED, WIRE WOUND: RW38V180; 81349	ea		1				*	*	*	1	4	2-2	R93
P-H A113	5905-852-9742	RESISTOR, FIXED, WIRE WOUND: RW47V621; 81349	ea		8				*	*	*	8	16	2-2	R68, R69, R71 thru R74, R76, R77
P-H A114	5905-552-2588	RESISTOR, VARIABLE: RV4SAYSD503A; 81349	ea		1				*	*	*	1	4	2-3	R87
M-D A115		RETAINER, FILTER: SMB536630; 80063	ea		3										
C-D A115A		RUBBER CHANNEL: SMB552811; 80063	in		*										
C-D A116		SCREW, EXTERNALLY RELIEVED BODY: SMC536570-2; 80063	ea		16										
C-D A116A		SCREW, MACHINE: MS35206-15; 96906	ea		2										
C-D A117	5305-954-3938	SCREW, MACHINE: MS35206-207; 96906	ea		8										
C-D A118	5305-889-3116	SCREW, MACHINE: MS35206-213; 96906	ea		2										
C-D A119	5305-889-2999	SCREW, MACHINE: MS35206-217; 96906	ea		8										
C-D A120	5305-984-4982	SCREW, MACHINE: MS35206-225; 96906	ea		2										
C-D A120A		SCREW, MACHINE: MS35206-226; 96906	ea		2										
C-D A121	5305-984-4984	SCREW, MACHINE: MS35206-227; 96906	ea		15										
C-D A122	5305-984-4988	SCREW, MACHINE: MS35206-228; 96906	ea		1										
C-D A123	5305-984-4989	SCREW, MACHINE: MS35206-229; 96906	ea		14										
C-D A124	5305-889-3001	SCREW, MACHINE: MS35206-231; 96906	ea		13										
C-D A125	5305-984-6221	SCREW, MACHINE: MS35206-234; 96906	ea		4										
C-D A126	5305-984-6191	SCREW, MACHINE: MS35206-243; 96906	ea		37										
C-D A126A		SCREW, MACHINE: MS35206-245 96906	ea		15										
C-D A127	5305-984-6194	SCREW, MACHINE: MS35206-246; 96906	ea		20										
C-D A128	5305-984-6195	SCREW, MACHINE: MS35206-247; 96906	ea		8										
C-D A129	5305-984-6196	SCREW, MACHINE: MS35206-230; 96906	ea		5										
C-D A130	5305-990-6444	SCREW, MACHINE: MS35206-261; 96906	ea		24										
C-D A131	5305-989-7434	SCREW, MACHINE: MS35206-264; 96906	ea		4										
C-D A132	5305-993-1848	SCREW, MACHINE: MS35206-265; 96906	ea		4										
C-D A133	5305-995-3444	SCREW, MACHINE: MS35206-266; 96906	ea		2										

(1) SMR CODE / INDEX NO.	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION / REFERENCE NUMBER & MFR. CODE / USABLE ON CODE	(4) UNIT OF ISSUE	(5) QTY INC IN UNIT PACK	(6) QTY INC IN UNIT	(7) 30-DAY DS MAINT ALLOWANCE (a) 1-20	(b) 21-50	(c) 51-100	(8) 30-DAY GS MAINT ALLOWANCE (a) 1-20	(b) 21-50	(c) 51-100	(9) 1 YR ALW PER EQUIP CNTGCY	(10) DEPOT MAINT ALW PER 100 EQUIP	(11) ILLUSTRATIONS (a) FIG NO.	(b) ITEM NO. OR REFERENCE DESIGNATION
C-D A134	5305-995-3442	SCREW, MACHINE: MS35206-268; 96906	ea		6										
C-D A135	5305-995-3440	SCREW, MACHINE: MS35206-270; 96906	ea		4										
C-D A136	5305-995-6311	SCREW, MACHINE: MS35206-271; 96906	ea		2										
P-H A137	5961-820-7696	SEMICONDUCTOR DEVICE, DIODE: 1N1124A; 81349	ea		2				*	*	*	2	5		CR1, CR4
P-H A138	5961-850-9436	SEMICONDUCTOR DEVICE, DIODE: 1N2820B; 81349	ea		1				*	*	*	1	4	2-1	VR9
P-H A139	5961-847-7125	SEMICONDUCTOR DEVICE, DIODE: 1N2831B; 81349	ea		1				*	*	*	1	4	2-1	VR10
P-H A140	5961-834-8044	SEMICONDUCTOR DEVICE, DIODE: 1N2835B; 81349	ea		1				*	*	*	1	4	2-1	VR11
P-H A141	5961-866-5455	SEMICONDUCTOR DEVICE, DIODE: 1N2843B; 81349	ea		1				*	*	*	1	4	2-1	VR12
P-H A142	5961-837-4642	SEMICONDUCTOR DEVICE, DIODE: 1N2976B; 81349	ea		1				*	*	*	1	4	2-1	VR2
P-H A143	5961-893-5939	SEMICONDUCTOR DEVICE, DIODE: 1N2980B; 81349	ea		1				*	*	*	1	4	2-1	VR1
P-H A144	5961-849-4184	SEMICONDUCTOR DEVICE, DIODE: 1N3002B; 81349	ea		1				*	*	*	1	4	2-1	VR6
P-H A145	5961-844-4472	SEMICONDUCTOR DEVICE, DIODE: 1N3005B; 81349	ea		1				*	*	*	1	4	2-1	VR8
P-H A146	5961-999-8716	SOCKET, SEMICONDUCTOR DEVICE: SMC536544; 80063	ea		4				*	*	*	4	10		XVR9 thru XV412
P-H A147	5930-625-8768	SWITCH, PUSH-PULL: SMC536557; 80063	ea		1				*	*	*	1	4	2-2	S1
P-H A148	5930-945-9297	SWITCH, ROTARY: SMD536504; 80063	ea		1				*	*	*	1	4	2-3	S11
P-H A149	5930-947-3018	SWITCH, ROTARY: SMD536505; 80063	ea		1				*	*	*	1	4	2-3	S6
P-H A150	5930-947-3017	SWITCH, ROTARY: SMD536508; 80063	ea		1				*	*	*	1	4	2-3	S8
P-H A151	5930-947-1931	SWITCH, ROTARY: SMD536509; 80063	ea		1				*	*	*	1	4	2-3	S7
P-H A152	5930-999-3932	SWITCH, ROTARY: SMD536510; 80063	ea		1				*	*	*	1	4	2-3	S4
P-H A153	5930-947-1929	SWITCH, ROTARY: SMD536511; 80063	ea		1				*	*	*	1	4	2-3	S12
P-H A154	5930-947-1928	SWITCH, ROTARY: SMD536586; 80063	ea		1				*	*	*	1	4	2-3	S14
P-H A155	5930-655-1514	SWITCH, TOGGLE: MS35058-22; 96906	ea		3				*	*	*	3	8	2-4	S2, S3, S13
P-H A156	5930-655-1575	SWITCH, TOGGLE: MS35059-22; 96906	ea		3				*	*	*	3	8	2-4	S5, S9, S10
P-H A158	5940-681-8184	TERMINAL LUG: MS25036-8; 96906	ea		10				*	*	*	10	19		
P-H A159	5940-983-7244	TERMINAL LUG: SMB536698; 80063	ea		6				*	*	*	6	13		
P-H A160	5940-280-0875	TERMINAL LUG: SMB536696-1; 80063	ea		2				*	*	*	2	5		
P-H A161	5940-156-7422	TERMINAL LUG: SMB536696-2; 80063	ea		3				*	*	*	3	8		
P-H A162	5940-204-5045	TERMINAL LUG: SMB536696-3; 80063	ea		3				*	*	*	10	19		
P-H A163	5940-983-6087	TERMINAL BOARD: 38TB10; 81349	ea		1				*	*	*	1	4	2-1	TB1

(1) SMR CODE / INDEX NO.	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION / REFERENCE NUMBER & MFR. CODE / USABLE ON CODE	(4) UNIT OF ISSUE	(5) QTY INC IN UNIT PACK	(6) QTY INC IN UNIT	(7) 30-DAY DS MAINT ALLOWANCE (a) 1-20	(b) 21-50	(c) 51-100	(8) 30-DAY GS MAINT ALLOWANCE (a) 1-20	(b) 21-50	(c) 51-100	(9) 1 YR ALW PER EQUIP CNTGCY	(10) DEPOT MAINT ALW PER 100 EQUIP	(11) ILLUSTRATIONS (a) FIG NO.	(b) ITEM NO. OR REFERENCE DESIGNATION
P-H A164	5940-707-3261	TERMINAL, STUD: SMB536661-1; 80063	ea		2				*	*	*	2	5		
P-H A165	5940-983-6089	TERMINAL BOARD: 38TB12; 81349	ea		1				*	*	*	2	5	2-1	TB2
A-H-R A166		TEST SET SUBASSEMBLY: SMB536678; 80063	ea		1									2-1	TB5
P-H A167	6625-947-9773	TERMINAL BOARD: SMC536677; 80063	ea		1				*	*	*	1	4		
C-D A168		NUT, PLAIN, CLINCH: SMB536669-2; 80063	ea		5										
C-D A169		TERMINAL, STUD: SE17XC02; 81349	ea		29										
C-D A170		TERMINAL BOARD: SMC536677-1; 80063	ea		1										
P-H A171	5961-577-6084	SEMICONDUCTOR DEVICE, DIODE: 1N645; 81349	ea		2				*	*	*	2	5	2-7	CR2, CR3
P-H A172	5961-829-0728	SEMICONDUCTOR DEVICE, DIODE: 1N561; 81349	ea		4				*	*	*	4	10	2-7	CR5 thru CR8
P-H A173	5961-752-6121	SEMICONDUCTOR DEVICE, DIODE: 1N753A; 81349	ea		3				*	*	*	3	8	2-7	VR3, VR4, VR5
P-H A174	5910-913-4641	CAPACITOR, FIXED, ELECTROLYTIC: CL65BJ470KP3; 81349	ea		2				*	*	*	2	5	2-7	C2, C7
P-H A175	5905-195-6752	RESISTOR, FIXED, COMPOSITION: RC42GF392J; 81349	ea		2				*	*	*	2	5	2-7	R3, R5
P-H A176	5905-186-2972	RESISTOR, FIXED, COMPOSITION: RC42GF511J; 81349	ea		1				*	*	*	1	4	2-7	R6
P-H A177	5905-279-1734	RESISTOR, FIXED, COMPOSITION: RC32GF330J; 81349	ea		1				*	*	*	1	4	2-7	R2
P-H A177A	5905-253-1233	RESISTOR, FIXED, COMPOSITION: RC42GF561J; 81349	ea		1				*	*	*	1	4	2-7	R4
A-H-R A178		TEST SET SUBASSEMBLY: SMB536681; 80063	ea		1									2-2	TB3
P-H A179	6625-947-3422	TERMINAL BOARD: SMB536683; 80063	ea		1				*	*	*	1	4	2-2	
C-D A180		TERMINAL, STUD: SAME AS A169	ea		10										
C-D A181	6625-947-3423	TERMINAL BOARD: SMB536683-1; 80063	ea		1										
P-H A182	5905-279-1946	RESISTOR, FIXED, COMPOSITION: RC42GF164J; 81349	ea		5				*	*	*	5	12	2-5	R56, R57, R83, R84, R86
A-H-R A183		TEST SET SUBASSEMBLY: SMB536685; 80063	ea		1									2-2	TB4
P-H A184	6625-947-3421	TERMINAL BOARD: SMB536687; 80063	ea		1				*	*	*	1	4		
C-D A185		TERMINAL STUD: SAME AS A169	ea		18										
C-D A186	6625-947-3420	TERMINAL BOARD: SMB536687-1; 80063	ea		1										
P-H A187	5905-254-7101	RESISTOR, FIXED, COMPOSITION: RC42GF104J; 81349	ea		8				*	*	*	8	15	2-6	R58, R59, R61, R62, R63, R64, R66, R78
P-H A188	5905-279-1934	RESISTOR, FIXED, COMPOSITION: RC42GF204J; 81349	ea		1				*	*	*	1	4	2-6	R67
A-H-R A189		TEST SET SUBASSEMBLY: SMC536689; 80063	ea		1									2-2	TB6
P-H A190	6625-926-2449	TERMINAL BOARD: SMD536691; 80063	ea		1				*	*	*	1	4	2-8	

(1) SMR CODE / INDEX NO.	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION / REFERENCE NUMBER & MFR. CODE / USABLE ON CODE	(4) UNIT OF ISSUE	(5) QTY INC IN UNIT PACK	(6) QTY INC IN UNIT	(7) 30-DAY DS MAINT ALLOWANCE (a) 1-20	(b) 21-50	(c) 51-100	(8) 30-DAY GS MAINT ALLOWANCE (a) 1-20	(b) 21-50	(c) 51-100	(9) 1 YR ALW PER EQUIP CNTGCY	(10) DEPOT MAINT ALW PER 100 EQUIP	(11) ILLUSTRATIONS (a) FIG NO.	(b) ITEM NO. OR REFERENCE DESIGNATION
C-D A191		NUT, PLAIN, CLINCH: SMB536669-3; 80063	ea		9										
C-D A192		TERMINAL, STUD: SAME AS A169	ea		142										
C-D A193	6625-947-9772	TERMINAL BOARD: SMD536691-1; 80063	ea		1										
P-H A194	5905-279-2528	RESISTOR, FIXED, COMPOSITION: RC42GF682J; 81349	ea		8				*	*	*	8	15	2-8	R12, R13, R14, R16, R19, R21, R22, R23
P-H A195	5905-171-1977	RESISTOR, FIXED, COMPOSITION: RC42GF303J; 81349	ea		1				*	*	*	1	4	2-8	R24
P-H A196	5905-254-1777	RESISTOR, FIXED, COMPOSITION: RC42GF273J; 81349	ea		1				*	*	*	1	4	2-8	R26
P-H A197	5905-185-8530	RESISTOR, FIXED, COMPOSITION: RC42GF752J; 81349	ea		4				*	*	*	4	10	2-8	R29, R31, R32, R33
P-H A198	5905-061-0739	RESISTOR, FIXED, WIRE WOUND: RW67V101; 81349	ea		11				*	*	*	11	20	2-8	R36, R37, R43, R44, R46, R47, R98, R99, R104, R106, R107
P-H A199	5905-926-0414	RESISTOR, FIXED, WIRE WOUND: RW67G330; 81349	ea		4				*	*	*	4	10	2-8	R48, R49, R51, R52
P-H A200	5905-061-2089	RESISTOR, FIXED, WIRE WOUND: RW69V510; 81349	ea		6				*	*	*	6	13	2-8	R96, R97, R108, R109, R111, R113
P-H A201	5905-269-4629	RESISTOR, FIXED, WIRE WOUND: RW67V160; 81349	ea		1				*	*	*	1	4	2-8	R34
P-H A202	5910-769-4371	CAPACITOR, FIXED, ELECTROLYTIC: CL65BG101KP3; 81349	ea		15				*	*	*	15	27	2-8	C11 thru C14 C16 thru C19 C21 thru C24 C26, C27, C28
P-H A203	5950-945-7482	TRANSFORMER, POWER, STEP-DOWN AND STEP-UP: SMC536648; 80063	ea		1				*	*	*	1	4	2-2	T1
P-H A204	6625-926-7558	VOLTMETER: SMC536516; 80063	ea		1				*	*	*	1	4	2-3	M1
C-D A205	5310-087-0057	WASHER, FLAT: MS27183-2; 96906	ea		8										
C-D A206	5310-951-4679	WASHER, FLAT: MS27183-3; 96906	ea		8										
C-D A207	5310-983-8483	WASHER, FLAT: MS27183-5; 96906	ea		32										
C-D A208	5310-809-8544	WASHER, FLAT: MS27183-7; 96906	ea		42										
C-D A209	5310-809-8546	WASHER, FLAT: MS27183-8; 96906	ea		66										
C-D A209A		WASHER, FLAT: MS27183-10; 96906	ea		1										
C-D A213	5310-543-5060	WASHER, LOCK: MS35338-39; 96906	ea		8										
C-D A214	5310-543-2410	WASHER, LOCK: MS35338-40; 96906	ea		6										
C-D A215	5310-045-4007	WASHER, LOCK: MS35338-41; 96906	ea		39										
C-D A216	5310-045-3299	WASHER, LOCK: MS35338-42; 96906	ea		43										
C-D A217	5310-045-3296	WASHER, LOCK: MS35338-43; 96906	ea		36										
C-D A218	5310-582-5965	WASHER, LOCK: MS35338-44; 96906	ea		7										

(1) SMR CODE / INDEX NO.	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION / REFERENCE NUMBER & MFR. CODE / USABLE ON CODE	(4) UNIT OF ISSUE	(5) QTY INC IN UNIT PACK	(6) QTY INC IN UNIT	(7) 30-DAY DS MAINT ALLOWANCE (a) 1-20	(b) 21-50	(c) 51-100	(8) 30-DAY GS MAINT ALLOWANCE (a) 1-20	(b) 21-50	(c) 51-100	(9) 1 YR ALW PER EQUIP CNTGCY	(10) DEPOT MAINT ALW PER 100 EQUIP	(11) ILLUSTRATIONS (a) FIG NO.	(b) ITEM NO. OR REFERENCE DESIGNATION
C-D A219		WASHER, NONMETALLIC: SMB536699; 80063	ea		7										
C-D A220		WASHER, NONMETALLIC: SMB536558-1; 80063	ea		10										
C-D A221		WASHER, NONMETALLIC: SMB536558-2; 80063	ea		10										
A-H-R A222		WIRING ASSEMBLY: SMJ552809; 80063	ea		1										
P-H A223	6145-174-1735	CABLE, SPECIAL PURPOSE, ELECTRICAL: SMB536519-1; 80063	ft		6				*	*	*	11	44		
C-D A224		WIRE, ELECTRICAL: SMD536518-1; 80063	ft		2										
C-D A225		WIRE, ELECTRICAL: SMD536518-5; 80063	ft		1										
C-D A226		WIRE, ELECTRICAL: SMD536518-6; 80063	ft		1										
C-D A227		WIRE, ELECTRICAL: SMD536518-9; 80063	ft		1										
C-D A228		WIRE, ELECTRICAL: SMD536518-2; 80063	ft		1										
C-D A229		WIRE, ELECTRICAL: SMD536518-11; 80063	ft		8										
C-D A230		WIRE, ELECTRICAL: SMD536518-42; 80063	ft		1										
C-D A231		WIRE, ELECTRICAL: SMD536518-12; 80063	ft		1										
C-D A232		WIRE, ELECTRICAL: SMD536518-3; 80063	ft		1										
C-D A233		WIRE, ELECTRICAL: SMD536518-14; 80063	ft		1										
C-D A234		WIRE, ELECTRICAL: SMD536518-15; 80063	ft		1										
C-D A235		WIRE, ELECTRICAL: SMD536518-16; 80063	ft		1										
C-D A236		WIRE, ELECTRICAL: SMD536518-17; 80063	ft		1										
C-D A237		WIRE, ELECTRICAL: SMD536518-18; 80063	ft		3										
C-D A238		WIRE, ELECTRICAL: SMD536518-19; 80063	ft		20										
C-D A239		WIRE, ELECTRICAL: SMD536518-20; 80063	ft		5										
C-D A240		WIRE, ELECTRICAL: SMD536518-26; 80063	ft		1										
C-D A241		WIRE, ELECTRICAL: SMD536518-27; 80063	ft		1										
C-D A242		WIRE, ELECTRICAL: SMD536518-32; 80063	ft		1										
C-D A243		WIRE, ELECTRICAL: SMD536518-31; 80063	ft		2										
C-D A244		WIRE, ELECTRICAL: SMD536518-33; 80063	ft		4										
C-D A245		CLAMP, LOOP: SMB552814-2; 80063	ea		1										
C-D A246		CLAMP, LOOP: SMB552814-3; 80063	ea		1										

(1) SMR CODE / INDEX NO.	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION / REFERENCE NUMBER & MFR. CODE / USABLE ON CODE	(4) UNIT OF ISSUE	(5) QTY INC IN UNIT PACK	(6) QTY INC IN UNIT	(7) 30-DAY DS MAINT ALLOWANCE (a) 1-20	(b) 21-50	(c) 51-100	(8) 30-DAY GS MAINT ALLOWANCE (a) 1-20	(b) 21-50	(c) 51-100	(9) 1 YR ALW PER EQUIP CNTGCY	(10) DEPOT MAINT ALW PER 100 EQUIP	(11) ILLUSTRATIONS (a) FIG NO.	(b) ITEM NO. OR REFERENCE DESIGNATION
C-D A247		CLAMP, LOOP: SMB552814-4; 80063	ea		1										
C-D A248		CLAMP, LOOP: SMB552814-6; 80063	ea		1										
C-D A249		CLAMP, LOOP: SMB552814-7; 80063	ea		2										
C-D A250		CLAMP, LOOP: SMB552814-8; 80063	ea		1										
C-D A251		CLAMP, LOOP: SMB552814-9; 80063	ea		1										
C-D A252		CLAMP, LOOP: SMB552814-10; 80063	ea		1										
C-D A253		LEAD, ELECTRICAL: SMB536769; 80063	ea		4										
C-D A254		NUT, PLAIN, HEX: SAME AS A064	ea		8										
C-D A255		NUT, SELF-LOCKING, HEX: SAME AS A069	ea		4										
C-D A256		NUT, SELF-LOCKING, HEX: SAME AS A070	ea		12										
P-H A257	5905-279-2662	RESISTOR, FIXED, COMPOSITION: RC32GF362J; 81349	ea		1				*	*	*	1	4	2-3	R118
P-H A258	5905-254-7096	RESISTOR, FIXED, COMPOSITION: RC42GF823J; 81349	ea		2				*	*	*	2	5	2-3	R18, R121
P-H A259	5905-975-1138	RESISTOR, FIXED, WIRE WOUND: RW67V151; 81349	ea		2				*	*	*	2	5	2-3	R88, R89
P-H A260	5905-079-4046	RESISTOR, FIXED, WIRE WOUND: RW69V390; 81349	ea		4				*	*	*	4	10	2-3	R38, R39, R41, R42
C-D A261	5305-984-4988	SCREW, MACHINE: SAME AS A122	ea		8										
C-D A262	5305-889-3000	SCREW, MACHINE: MS35206-230; 96906	ea		4										
C-D A263	5305-984-6194	SCREW, MACHINE: SAME AS A127	ea		12										
C-D A264		TERMINAL, LUG: MS25036-3; 96906	ea		4										
C-D A265		TERMINAL, LUG: MS25036-49; 96906	ea		2										
C-D A266		TERMINAL, LUG: MS25036-52; 96906	ea		2										
P-H A267	5940-204-5045	TERMINAL, LUG: SAME AS A162	ea		7										
C-D A268	5310-983-8483	WASHER, FLAT: SAME AS A207	ea		9										
C-D A269	5310-045-4007	WASHER, LOCK: SAME AS A215	ea		8										
A-H-R A270		WIRING HARNESS, BRANCHED: SMD552802; 80063	ea		1										
C-D A271		CONNECTOR, RECEPTACLE, ELECTRICAL: MS3102E32-7SX; 96906	ea		1										J7
X2-D A272	5940-283-5280	TERMINAL, LUG: MS2503606; 96906	ea		8										
C-D A273		WIRE, ELECTRICAL: SAME AS A224	ft		3										
C-D A274		WIRE, ELECTRICAL: SAME AS A226	ft		2										

(1) SMR CODE / INDEX NO.	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION / REFERENCE NUMBER & MFR. CODE / USABLE ON CODE	(4) UNIT OF ISSUE	(5) QTY INC IN UNIT PACK	(6) QTY INC IN UNIT	(7) 30-DAY DS MAINT ALLOWANCE (a) 1-20	(b) 21-50	(c) 51-100	(8) 30-DAY GS MAINT ALLOWANCE (a) 1-20	(b) 21-50	(c) 51-100	(9) 1 YR ALW PER EQUIP CNTGCY	(10) DEPOT MAINT ALW PER 100 EQUIP	(11) ILLUSTRATIONS (a) FIG NO.	(b) ITEM NO. OR REFERENCE DESIGNATION
C-D A275		WIRE, ELECTRICAL: SAME AS A227	ft		3										
C-D A276		WIRE, ELECTRICAL: SAME AS A228	ft		2										
C-D A277		WIRE, ELECTRICAL: SAME AS A231	ft		2										
C-D A278		WIRE, ELECTRICAL: SAME AS A232	ft		1										
C-D A279		WIRE, ELECTRICAL: SMD536518-13; 80063	ft		3										
C-D A280		WIRE, ELECTRICAL: SAME AS A233	ft		3										
C-D A281		WIRE, ELECTRICAL: SAME AS A234	ft		2										
C-D A282		WIRE, ELECTRICAL: SAME AS A235	ft		2										
C-D A283		WIRE, ELECTRICAL: SAME AS A236	ft		2										
C-D A284		WIRE, ELECTRICAL: SAME AS A237	ft		2										
C-D A285		WIRE, ELECTRICAL: SAME AS A238	ft		3										
C-D A286		WIRE, ELECTRICAL: SMD536518-40; 80063	ft		5										
C-D A287		WIRE, ELECTRICAL: SMD536518-41; 80063	ft		5										
A-H-R A288		WIRING HARNESS, BRANCHED: SMJ552803; 80063	ea		1										
C-D A289	5940-503-9995	TERMINAL, LUG: MS25036-1; 96906	ea		9										
C-D A290	5940-577-3711	TERMINAL, LUG: MS25036-3; 96906	ea		3										
C-D A291	5940-283-5280	TERMINAL, LUG: SAME AS A272	ea		18										
C-D A292	5940-557-1629	TERMINAL, LUG: MS25036-49; 96906	ea		6										
C-D A293	5940-615-6073	TERMINAL, LUG: MS25036-52; 96906	ea		2										
C-D A294	5940-557-1627	TERMINAL, LUG: MS25036-53; 96906	ea		4										
P-H A295	6145-174-1735	CABLE, SPECIAL PURPOSE ELECTRICAL: SAME AS A223	ft		4										
C-D A296		WIRE, ELECTRICAL: SAME AS A224	ft		6										
C-D A297		WIRE, ELECTRICAL: SAME AS A225	ft		4										
C-D A298		WIRE, ELECTRICAL: SAME AS A226	ft		48										
C-D A299		WIRE, ELECTRICAL: SAME AS A227	ft		5										
C-D A300		WIRE, ELECTRICAL: SAME AS A228	ft		31										
C-D A301		WIRE, ELECTRICAL: SAME AS A229	ft		26										
C-D A302		WIRE, ELECTRICAL: SAME AS A230	ft		4										
C-D A303		WIRE, ELECTRICAL: SAME AS A231	ft		4										

(1) SMR CODE / INDEX NO.	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION / REFERENCE NUMBER & MFR. CODE / USABLE ON CODE	(4) UNIT OF ISSUE	(5) QTY INC IN UNIT PACK	(6) QTY INC IN UNIT	(7) 30-DAY DS MAINT ALLOWANCE (a) 1-20	(b) 21-50	(c) 51-100	(8) 30-DAY GS MAINT ALLOWANCE (a) 1-20	(b) 21-50	(c) 51-100	(9) 1 YR ALW PER EQUIP CNTGCY	(10) DEPOT MAINT ALW PER 100 EQUIP	(11) ILLUSTRATIONS (a) FIG NO.	(b) ITEM NO. OR REFERENCE DESIGNATION
C-D A304		WIRE, ELECTRICAL: SAME AS A232	ft		15										
C-D A305		WIRE, ELECTRICAL: SAME AS A279	ft		6										
C-D A306		WIRE, ELECTRICAL: SAME AS A233	ft		7										
C-D A307		WIRE, ELECTRICAL: SAME AS A234	ft		4										
C-D A308		WIRE, ELECTRICAL: SAME AS A235	ft		6										
C-D A309		WIRE, ELECTRICAL: SAME AS A236	ft		2										
C-D A310		WIRE, ELECTRICAL: SAME AS A237	ft		4										
C-D A311		WIRE, ELECTRICAL: SAME AS A238	ft		6										
C-D A312		WIRE, ELECTRICAL: SAME AS A239	ft		4										
A-H-R A313		WIRING HARNESS, BRANCHED: SMJ552812; 80063	ea		1										
P-H A314	5935-820-2080	CONNECTOR, RECEPTACLE, ELECTRICAL: MS3102R32-7S; 96906	ea		1				*	*	*	1	4	2-1	J4
C-D A315		CONNECTOR, RECEPTACLE, ELECTRICAL: MS3102R32-7SY; 96906	ea		1									2-1	J8
C-D A316	5940-283-5280	TERMINAL, LUG: SAME AS A272	ea		5										
C-D A317		WIRE, ELECTRICAL: SAME AS A224	ft		17										
C-D A318		WIRE, ELECTRICAL: SAME AS A225	ft		21										
C-D A319		WIRE, ELECTRICAL: SAME AS A226	ft		21										
C-D A320		WIRE, ELECTRICAL: SAME AS A227	ft		13										
C-D A321		WIRE, ELECTRICAL: SAME AS A229	ft		10										
C-D A322		WIRE, ELECTRICAL: SAME AS A230	ft		20										
C-D A323		WIRE, ELECTRICAL: SAME AS A231	ft		13										
C-D A324		WIRE, ELECTRICAL: SAME AS A279	ft		2										
C-D A325		WIRE, ELECTRICAL: SAME AS A234	ft		15										
C-D A326		WIRE, ELECTRICAL: SAME AS A244	ft		6										
C-D A327		WIRE, ELECTRICAL: SAME AS A286	ft		6										
C-D A328		WIRE, ELECTRICAL: SAME AS A287	ft		6										
C-D A329		WIRE, ELECTRICAL: SMD536518-47; 80063	ft		13										
C-D A330		WIRE, ELECTRICAL: SMD536518-49; 80063	ft		20										
C-D A331		WIRE, ELECTRICAL: SMD536518-51; 80063	ft		7										

(1) SMR CODE / INDEX NO.	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION / REFERENCE NUMBER & MFR. CODE / USABLE ON CODE	(4) UNIT OF ISSUE	(5) QTY INC IN UNIT PACK	(6) QTY INC IN UNIT	(7) 30-DAY DS MAINT ALLOWANCE (a) 1-20	(b) 21-50	(c) 51-100	(8) 30-DAY GS MAINT ALLOWANCE (a) 1-20	(b) 21-50	(c) 51-100	(9) 1 YR ALW PER EQUIP CNTGCY	(10) DEPOT MAINT ALW PER 100 EQUIP	(11) ILLUSTRATIONS (a) FIG NO.	(b) ITEM NO. OR REFERENCE DESIGNATION
C-D A332		WIRE, ELECTRICAL: SMD536518-52; 80063	ft		8										
C-D A333		WIRE, ELECTRICAL: SMD536518-48; 80063	ft		26										
C-D A334		WIRE, ELECTRICAL: SMD536518-50; 80063	ft		24										
A-H-R A335		CABLE ASSEMBLY, SPECIAL PURPOSE, ELECTRICAL: SMB552851; 80063	ea		1										
P-H A336	5935-817-6548	CONNECTOR, RECEPTACLE, ELECTRICAL: SMC536667-1; 80063	ea		1				*	*	*	1	4	2-2	J5
P-H A337	6145-174-1735	CABLE, SPECIAL PURPOSE, ELECTRICAL: SAME AS A223	ft		1										

SECTION III INDEX-FEDERAL STOCK NUMBER CROSS REFERENCE TO INDEX NUMBER

FEDERAL STOCK NUMBER	INDEX NO.	FEDERAL STOCK NUMBER	INDEX NO.	FEDERAL STOCK NUMBER	INDEX NO.
4130-947-9680	A044	5310-687-6293	A062	5905-900-9831	A108
4140-684-0508	A042	5310-809-8544	A208	5905-926-0382	A105
5305-889-2999	A119	5310-809-8546	A209	5905-926-0413	A106
5305-889-3000	A262	5310-877-5797	A071	5905-926-0414	A199
5305-889-3001	A124	5310-951-4679	A206	5905-926-0509	A098
5305-889-3116	A118	5310-983-8483	A207	5905-926-8451	A109
5305-954-3982	A117	5330-930-4357	A048	5905-945-3899	A103
5305-984-4982	A120	5355-556-0145	A055	5905-946-6173	A104
5305-984-4984	A121	5355-994-3435	A054	5905-975-1138	A259
5305-984-4988	A122	5905-061-0739	A198	5905-988-4379	A112
5305-984-4989	A123	5905-061-2089	A200	5910-112-6903	A016
5305-984-6191	A126	5905-079-4046	A260	5910-227-0293	A014
5305-984-6194	A127	5905-171-1977	A195	5910-683-7397	A015
5305-984-6195	A128	5905-185-8530	A197	5910-769-4371	A202
5305-984-6196	A129	5905-186-2972	A176	5910-913-4641	A174
5305-984-6221	A125	5905-195-6752	A175	5915-539-7590	A045
5305-989-7434	A131	5905-253-1233	A177A	5920-681-4998	A006
5305-990-6444	A130	5905-254-1777	A196	5920-824-1515	A047
5305-993-1848	A132	5905-254-7096	A258	5920-926-7435	A004B
5305-995-3440	A135	5905-254-7101	A187	5925-926-8362	A029
5305-995-3442	A134	5905-269-4629	A201	5930-625-8768	A147
5305-995-3444	A133	5905-279-1734	A177	5930-655-1514	A155
5305-995-6311	A136	5905-279-1934	A188	5930-655-1575	A156
5310-012-0614	A066	5905-279-1946	A182	5930-945-9297	A148
5310-012-0622	A065	5905-279-2528	A194	5930-947-1928	A154
5310-013-4524	A063	5905-279-2662	A257	5930-947-1929	A153
5310-013-4530	A064	5905-552-2588	A114	5930-947-1931	A151
5310-045-3296	A217	5905-556-7370	A100	5930-947-3017	A150
5310-045-3299	A216	5905-687-2121	A101	5930-947-3018	A149
5310-045-4007	A215	5905-837-8621	A099	5930-999-3932	A152
5310-087-0057	A205	5905-850-9072	A111	5935-222-7789	A041C
5310-088-0551	A068	5905-852-2011	A107	5935-581-4558	A041D
5310-543-2410	A214	5905-852-9742	A113	5935-615-7017	A052
5310-543-5060	A213	5905-881-9462	A110	5935-617-2193	A053
5310-582-5965	A218	5905-882-1878	A102	5935-642-4137	A035

FEDERAL STOCK NUMBER	INDEX NO.
5935-801-6616	A032
5935-806-4588	A033
5935-817-6548	A336
5935-820-2080	A314
5935-836-3345	A034
5935-933-3376	A041A
5940-156-7422	A161
5940-204-5045	A162
5940-280-0875	A160
5940-283-5280	A272
5940-503-9995	A289
5940-557-1627	A294
5940-557-1629	A292
5940-577-3711	A290
5940-615-6073	A293
5940-681-8184	A158
5940-707-3261	A164
5940-827-8863	A095
5940-983-6087	A163
5940-983-6089	A165
5940-983-7244	A159
5945-724-8457	A096
5945-833-6657	A097
5950-945-6517	A028
5950-945-7482	A203
5961-577-6084	A171
5961-752-6121	A173
5961-820-7696	A137
5961-829-0728	A172
5961-834-8044	A140
5961-837-4642	A142
5961-844-4472	A145
5961-847-7125	A139
5961-849-4184	A144
5961-850-9436	A138

FEDERAL STOCK NUMBER	INDEX NO.
5961-866-5455	A141
5961-893-5939	A143
5961-999-8716	A146
5975-231-5894	A041B
6145-174-1735	A223
6210-045-7658	A061
6210-067-8381	A060
6210-836-2564	A058
6240-155-8706	A057
6240-682-3411	A056
6250-051-5978	A059
6625-903-3496	A003
6625-903-3497	A002
6625-905-7159	A001
6625-908-4828	A004
6625-908-4833	A005
6625-926-2449	A190
6625-926-7558	A204
6625-947-3420	A186
6625-947-3421	A184
6625-947-3422	A179
6625-947-3423	A181
6625-947-9772	A193
6625-947-9773	A167

Reference Number	Index No.
CP072SE5	A009
MS20426A3-4	A025
MS20426A3-9	A026
MS21044N06	A069
MS21044N08	A070
MS25036-3	A264
MS25036-49	A265
MS25036-52	A266
MS27183-10	A209A
MS3102E32-7SX	A271

REFERENCE NUMBER	INDEX NO.
MS3102R32-7SY	A315
MS35206-15	A116A
MS35206-226	A120A
MS35206-245	A126A
MS51968-1	A067
MS75009-37	A011
MS75009-38	A012
MS75009-47	A013
NL422W20-008	A005
SE17XC02	A169
SMB536513	A040
SMB536527-1	A049
SMB536539	A043
SMB536558-1	A220
SMB536558-2	A221
SMB536574-1	A019
SMB536610	A072
SMB536612	A092
SMB536628	A024
SMB536630	A115
SMB536663	A093
SMB536669-2	A168
SMB536669-3	A191
SMB536678	A166
SMB536681	A178
SMB536685	A183
SMB536693	A041
SMB536695	A051
SMB536699	A219
SMB536769	A253
SMB552811	A115A
SMB552814-2	A245
SMB552814-3	A246
SMB552814-4	A237
SMB552814-6	A248

REFERENCE NUMBER	INDEX NO.
SMB552814-7	A249
SMB552814-8	A250
SMB552814-9	A251
SMB552814-10	A252
SMB552851	A335
SMC536529-1	A008
SMC536543-4	A090
SMC536570-2	A116
SMC536587-1	A030
SMC536629-1	A010
SMC536656-1	A020
SMC536657-1	A022
SMC536657-2	A023
SMC536657-3	A021
SMC536659-2	A094
SMC536659-7	A004C
SMC536677-1	A170
SMC536689	A189
SMC552831	A004A
SMD536518-1	A224
SMD536518-2	A228
SMD536518-3	A232
SMD536518-5	A225
SMD536518-6	A226
SMD536518-9	A227
SMD536518-11	A229
SMD536518-12	A231
SMD536518-13	A279
SMD536518-14	A233
SMD536518-15	A234
SMD536518-16	A235
SMD536518-17	A236
SMD536518-18	A237
SMD536518-19	A238
SMD536518-20	A239
SMD536518-26	A240
SMD536518-27	A241
SMD536518-31	A243
SMD536518-32	A242
SMD536518-33	A244
SMD536518-40	A286
SMD536518-41	A287
SMD536518-42	A230
SMD536518-47	A329
SMD536518-48	A333
SMD536518-49	A330
SMD536518-50	A334
SMD536518-51	A331
SMD536518-52	A332
SMD536600	A085
SMD536600-1	A088
SMD536602	A038
SMD536602-1	A039
SMD536604	A079
SMD536604-1	A082
SMD536611	A027
SMD536614	A073
SMD536614-1	A074
SMD536617	A017
SMD536617-5	A018
SMD536619	A089
SMD536619-1	A091
SMD552802	A270
SMJ552803	A288
SMJ552809	A222
SMJ552812	A313

REFERENCE NUMBER	INDEX NO.

SECTION IV INDEX-FIGURE AND ITEM NUMBER CROSS REFERENCE TO INDEX NUMBER

FIG. NO.	ITEM NO. OR REFERENCE DESIGNATION	INDEX NO.
2-1	CB1	A029
	J1	A033
	J2	A032
	J4	A314
	J8	A315
	J9	A052
	J10	A053
	J11 thru	A052
	J19	
	J21	A053
	J22	A052
	J23	A052
	J24	A052
	J26	A052
	J27	A052
	J28	A053
	J29	A053
	J31 thru	A052
	J34	
	J36	A053
	J37	A052
	J38	A053
	R1	A099
	R7	A100
	R8	A102
	R9	A106
	R11	A106
	R17	A101
	R27	A108
	R28	A105
	R30	A104
	R114	A107
	R116	A107
	R117	A107
	R119	A109
	TB1	A163
	TB2	A165
	TB5	A166
	VR1	A143
	VR2	A142
	VR6	A144
	VR8	A145
	VR9	A138
	VR10	A139
	VR11	A140
	VR12	A141
	XF1	A047
2-2	C1	A015
	C3	A014
	C4	A014
	C6	A014
	C8	A016
	C10	A016
	FL1	A045
	FL2	A045
	J3	A034
	J5	A035

FIG. NO.	ITEM NO. OR REFERENCE DESIGNATION	INDEX NO.
	K1	A096
	K2	A097
	L1	A028
	L2	A028
	P1	A041C
	R53	A098
	R54	A098
	R68	A113
	R69	A113
	R71 thru	A113
	R74	
	R76	A113
	R77	A113
	R79	A098
	R81	A098
	R82	A098
	R90	A103
	R91	A111
	R92	A110
	R93	A112
	R94	A110
	S1	A147
	T1	A203
	TB3	A178
	TB4	A183
	TB6	A189
2-3	M1	A204
	R38	A260
	R39	A260
	R41	A260
	R42	A260
	R87	A114
	R88	A259
	R89	A259
	R118	A257
	S4	A152
	S6	A149
	S7	A151
	S8	A150
	S11	A148
	S12	A153
	S14	A154
	XDS1 thru	A059
	XDS4	
	XDS5	A058
	XDS6	A059
	XDS7	A058
	XDS8	A058
	XDS9	A059
	XDS10	A059
2-4	DS1	A056
	DS2	A056
	DS3	A056
	DS4	A056

FIG. NO.	ITEM NO. OR REFERENCE DESIGNATION	INDEX NO.
	DS5	A057
	DS6	A056
	DS7	A057
	DS8	A057
	DS9	A056
	DS10	A056
	F1	A006
	S2	A155
	S3	A155
	S5	A156
	S9	A156
	S10	A156
	S13	A155
2-5	R56	A182
	R57	A182
	R83	A182
	R84	A182
	R86	A182
2-6	R58	A187
	R59	A187
	R61	A187
	R62	A187
	R63	A187
	R64	A187
	R66	A187
	R67	A188
	R78	A187
2-7	C2	A174
	C7	A174
	CR2	A171
	CR3	A171
	CR5 thru CR8	A172
	R2	A177
	R3	A175
	R4	A177A
	R5	A175
	R6	A176
	VR3	A173
	VR4	A173
	VR5	A173
2-8	C11 thru C14	A202
	C16 thru C19	A202
	C21 thru C24	A202
	C26	A202
	C27	A202
	C28	A202
	R12	A194
	R13	A194
	R14	A194
	R16	A194
	R19	A194
	R21	A194
	R22	A194
	R23	A194
	R24	A195
	R26	A196
	R29	A197
	R31	A197
	R32	A197
	R33	A197
	R34	A201
	R36	A198
	R37	A198
	R43	A198
	R44	A198
	R46	A198
	R47	A198
	R48	A199
	R49	A199
	R51	A199
	R52	A199
	R96	A200
	R97	A200
	R98	A198
	R99	A198
	R104	A198
	R106	A198
	R107	A198
	R108	A200
	R109	A200
	R111	A200
	R113	A200

SECTION V INDEX-REFERENCE DESIGNATION CROSS REFERENCE TO INDEX NUMBER

REFERENCE DESIGNATION	INDEX NO.
C1	A015
C2	A174
C3	A014
C4	A014
C6	A014
C7	A174
C8	A016
C10	A016
C11 thru C14	A202
C16 thru C19	A202
C21 thru C24	A202
C26	A202
C27	A202
C28	A202
CB1	A029
CR1	A137
CR2	A171
CR3	A171
CR4	A137
CR5 thru CR8	A172
DS1	A056
DS2	A056
DS3	A056
DS4	A056
DS5	A057
DS6	A056
DS7	A057
DS8	A057
DS9	A056
DS10	A056
F1	A006
FL1	A045
FL2	A045
J1	A033
J2	A032
J3	A034
J4	A314
J5	A035
J8	A315
J9	A052
J10	A053
J11 thru J19	A052
J21	A053
J22	A052
J23	A052
J24	A052
J26	A052
J27	A052
J28	A053
J29	A053
J31 thru J34	A052
J36	A053
J37	A052
J38	A053
K1	A096
K2	A097
L1	A028
L2	A028
M1	A204
P1	A041C
R1	A099
R2	A177
R3	A175
R4	A177A
R5	A175
R6	A176
R7	A100
R8	A102
R9	A106
R11	A106
R12	A194
R13	A194
R14	A194
R16	A194
R17	A101
R19	A194
R21	A194
R22	A194
R23	A194
R24	A195
R26	A196
R27	A108
R28	A105
R29	A197
R30	A104
R31	A197
R32	A197
R33	A197
R34	A201
R36	A198
R37	A198
R38	A260
R39	A260
R41	A260
R42	A260
R43	A198
R44	A198
R46	A198
R47	A198
R48	A199
R49	A199
R51	A199
R52	A199
R53	A098
R54	A098
R56	A182
R57	A182
R58	A187
R59	A187
R61	A187
R62	A187

REFERENCE DESIGNATION	INDEX NO.
R63	A187
R64	A187
R66	A187
R67	A188
R68	A113
R69	A113
R71 thru R74	A113
R76	A113
R77	A113
R78	A187
R79	A098
R81	A098
R82	A098
R83	A182
R84	A182
R86	A182
R87	A114
R88	A259
R89	A259
R90	A103
R91	A111
R92	A110
R93	A112
R94	A110
R96	A200
R97	A200
R98	A198
R99	A198
R104	A198
R106	A198
R107	A198
R108	A200
R109	A200
R111	A200
R113	A200
R114	A107
R116	A107
R117	A107
R118	A257
R119	A109
S1	A147
S2	A155
S3	A155
S4	A152
S5	A156
S6	A149
S7	A151
S8	A150
S9	A156
S10	A156
S11	A148
S12	A153
S13	A155
S14	A154
T1	A203
TB1	A163
TB2	A165
TB3	A178
TB4	A183
TB5	A166
TB6	A189
VR1	A143
VR2	A142
VR3	A173
VR4	A173
VR5	A173
VR6	A144
VR8	A145
VR9	A138
VR10	A139
VR11	A140
VR12	A141
XDS1 thru XDS4	A059
XDS5	A058
XDS6	A059
XDS7	A058
XDS8	A058
XDS9	A059
XDS10	A059
XF1	A047
XVR9 thru XVR12	A146

By Order of the Secretary of the Army:

HAROLD K. JOHNSON,
General, United States Army,
Chief of Staff.

Official:

KENNETH G. WICKHAM,
Major General, United States Army,
The Adjutant General.

Distribution:

To be distributed in accordance with DA Form 12-32, Section III, (unclassified) requirements for direct and general support maintenance literature for the AN/FPA-15 and AN/FPA-16, plus USASESS (40).

☆ U. S. GOVERNMENT PRINTING OFFICE: 1967—304430/985

TECHNICAL MANUAL
No. 11–6625–639–45

HEADQUARTERS,
DEPARTMENT OF THE ARMY
WASHINGTON, D. C. 20315, *25 August 1966*

TEST SET, POWER SUPPLY AN/FPM–26

			Paragraph	Page
CHAPTER	1.	FUNCTIONAL OPERATION		
Section	I.	General		
		Scope	1–1	1–1
		Index of publications	1–2	1–1
	II.	Circuit analysis		
		Block diagram discussions	1–3	1–1
		Power input control circuit	1–4	1–3
		Internal dc power supply	1–5	1–5
		Dc switching circuits	1–6	1–6
		PP–3742/FPA test circuit	1–7	1–6
		PP–3744/FPA test circuit	1–8	1–7
		PP–3745/FPA test circuit	1–9	1–7
		PP–3743/FPA test circuit	1–10	1–7
		PP–3741/FPA test circuit	1–11	1–8
CHAPTER	2.	TROUBLESHOOTING		
Section	I.	General troubleshooting techniques		
		General instructions	2–1	2–1
		Organization of troubleshooting procedures	2–2	2–1
		Test equipment required	2–3	2–2
	II.	Troubleshooting Test Set, Power Supply AN/FPM–26		
		Preliminary procedure	2–4	2–2
		Static testing	2–5	2–2
		Test setup	2–6	2–3
		Troubleshooting	2–7	2–3
		Trouble isolation	2–8	2–10
		Voltage and resistance data	2–9	2–10
		Dc resistance of inductive components	2–10	2–13
CHAPTER	3.	REPAIRS		
		General parts replacements techniques	3–1	3–1
		Adjustments	3–2	3–1
CHAPTER	4.	GENERAL SUPPORT MAINTENANCE PROCEDURES		
		General	4–1	4–1
		Test equipment required	4–2	4–1
		Physical tests and inspections	4–3	4–2
		Power input control and +400-volt dc check	4–4	4–5
		Dc power supply voltage checks (no-load conditions)	4–5	4–7
		Dc switching circuits resistance checks	4–6	4–9
		Test data summary	4–7	4–10
CHAPTER	5.	DEPOT MAINTENANCE		
Section	I.	General scope of depot maintenance	5–1	5–1
		General parts replacement techniques	5–2	5–1
		Test conditions	5–3	5–1
		Test equipment required	5–4	5–1
	II.	Normal test procedures		
		Test setup	5–5	5–2
		Internal dc power supply tests	5–6	5–2
		PP–3743/FPA TEST circuits tests	5–7	5–3
		PP–3741/FPA TEST circuits tests	5–8	5–3
		PP–3742/FPA TEST circuits tests	5–9	5–4

		Paragraph	Page
	PP-3744/FPA TEST circuits tests	5-10	5-4
	PP-3745/FPA TEST circuits tests	5-11	5-5
III.	Alternate test procedures		
	General	5-12	5-6
	Test setup	5-13	5-7
	Test fixture fabrication	5-14	5-7
	Checking dc output voltages	5-15	5-7
	Checking ripple component of dc output voltages	5-16	5-9
	Checking acceleration voltage test circuits	5-17	5-10
	Checking deflection voltage test circuit	5-18	5-10
APPENDIX	REFERENCES		A-1

CHAPTER 1

FUNCTIONAL OPERATION

Section I. GENERAL

1-1. Scope

a. This manual contains general support and depot maintenance instructions for Test Set, Power Supply AN/FPM-26. It includes instructions for troubleshooting, testing, repairing, and parts replacement of equipment. It also lists tools, materials, and test equipment required for maintenance. Block diagram and functional analysis are presented in this chapter.

b. The complete technical manual for this equipment includes TM 11-6625-639-12, TM 11-6625-639-20P, and TM 11-6625-639-45P.

c. The direct reporting of errors, omissions, and recommendations for improving this equipment manual by the individual user is authorized and encouraged. DA Form 2028 will be used for reporting these improvements. This form may be completed by using pencil, pen, or typewriter. DA Forms 2028 will be completed by the individual using the manual and forwarded direct to: Commanding General, U. S. Army Electronics Command, ATTN: AMSEL-MR-NMP-AD, Fort Monmouth, New Jersey 07703.

Note: For applicable forms and records, see paragraph 1-3, TM 11-6625-639-12.

1-2. Index of Publications

Refer to the latest issue for DA Pam 310-4 to determine whether there are new editions, changes, or additional publications pertaining to the equipment. Department of the Army Pamphlet No. 310-4 is an index of current technical manuals, technical bulletins, supply manuals, (types 7, 8, and 9) supply bulletins, lubrication orders, and modification work orders that are available through publications supply channels. The index lists the individual parts (-10, -20, -35P, etc) and the latest changes to and revisions of each equipment publication.

Section II. CIRCUIT ANALYSIS

1-3. Block Diagram Discussions

Test Set, Power Supply AN/FPM-26 controls power received from alternating-current (ac) and direct-current (dc) sources, develops internal dc voltages, and provides ac and dc voltages at connector jacks for use in testing the operating characteristics of the power supply assemblies of ECCM Consoles AN/FPA-15 and AN/FPA-16. It contains a power input control circuit, an internal dc power supply, and five dc switching circuits. The switching circuits are divided into five areas and operate independently of one another.

a. Power Input Control Circuit (fig. 1-1). Input power (115 volts ac, 60 cycles per second (cps), single-phase) is applied through AC PWR circuit breaker CB1 either to Variable Power Transformer TF-171/USM or Transformer, Power, Voltage Regulating TF-476/FPA, depending upon the unit to be tested. When AC PWR circuit breaker CB1 is closed, ac power is applied to the transformer in use. The output from the transformer feeds: thermal delay relay K1; 118 volts ac through connector jacks on the front panel to filament transformers in PP-3741/FPA, PP-3741/FPA, or PP-3744/FPA; LINE VOLTAGE meter M1, which monitors the ac voltage being distributed; and contacts A1 and B1 of relay K2. Sixty seconds after power is applied to thermal delay relay K1, it is activated, and ac power is fed into DC PWR switch S2 which, when

closed, applies energy to energize relay K2. The +400-volt dc input from an external source (used only when testing Power Supply PP–3741/FPA) connects directly to contact C1 of relay K2. The energizing of relay K2 applies ac power to power transformers in the PP–3741/FPA, PP–3742/FPA, PP–3744/FPA, or PP–3745/FPA and routes the +400 volts dc to TEST SELECTOR switch S12. When the TF–476/FPA and Power Supply PP–3943/FPA are connected to the AN/FPM–26 (by cables W9 and W3), relay K2 applies ac power through jumper connections in W9 and through W3 to the PP–3743/FPA.

b. Internal Dc Power Supply (fig. 1–2). This circuit develops and furnishes dc voltages to test the monitoring circuits of Power Supply PP–3743/FPA. Input power (118 volts, 60 cps, single-phase) is applied to transformer T1 through K2 only when the TF–476/FPA and PP–3743/FPA are connected to the AN/FPM –26. The center-tapped secondary of transformer T1 supplies rectified power to the voltage-regulating circuits of the internal dc power supply, which produce 10 dc outputs. These voltages are routed to output jack J7 and to the INT VOLTAGE TEST switch for measurement at ± test jack J27.

(1) *Minus 28, –26, –12, and –6 volts.* One of the secondary voltages of T1 is rectified by CR1 and CR4 and filtered by C3 and C4. The resultant voltage is used to generate –28, –26, –12, and –6 volts dc. In one case, it passes through current-limiting resistors R3 and R5 to provide a –6-volt dc output (J7, pin K) regulated by VR3. In the other case, it passes through filter R1–C2 to provide a –28-volt dc output (J7, pin d) regulated by VR1 and VR2. The –28 volts dc is reduced by dropping resistor R2 to provide a lamp voltage output (–26 volts at J7, pin c). In addition, –12 volts dc (J7, pin b) is obtained at the junction of VR1 and VR2.

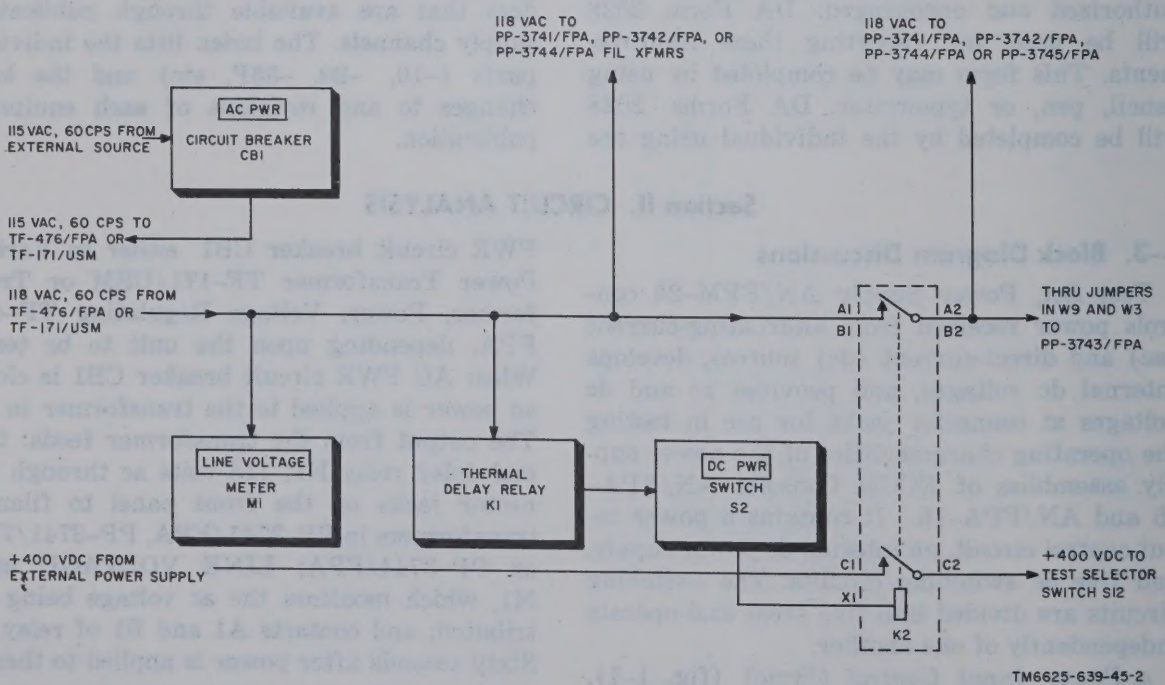


Figure 1–1. Power input control circuit, block diagram.

(2) *Plus 12 and +6 volts.* A second output of T1 is rectified by CR2 and CR3 and filtered by C6. The resultant voltage is dropped by R4 and R6, and regulated by VR4 and VR5 at +12 volts dc and fed direct to output jack J7, pin f. The junction of VR4 and VR5 provides +6 volts dc (J7, pin J).

(3) *Minus 275 volts.* A third output of T1 is rectified by CR5 and CR8 and filtered by L1 and C8. The resultant negative voltage is dropped through R7 and regulated at –275 volts dc (J7, pin F) by the combined action of VR6, VR7, and VR8.

(4) *Plus 300, +275, and +150 volts.* The remaining output of T1 is rectified by CR6 and CR7 and filtered by L2 and C10. The resultant positive voltage is dropped through R8 and regulated at +300 volts dc (J7, pin E) by the combined action of VR9 through VR12. The junction of VR9 and VR10 is regulated at +275 volts dc by the action of VR10, VR11, and VR12 and then fed to jack J7, pin G. The junction of VR11 and VR12 is regulated at +150 volts dc by VR12 action and sent to jack J7, pin H.

c. Typical Dc Switching Circuit (fig. 1–3). A switching circuit is used to select particular loads and apply them to their appropriate input voltages from the power supply assemblies under test. Input voltages are also connected to front panel test jacks. The switching circuit described is useful in understanding the five switching circuits. The TEST SELECTOR switch selects one of the inputs received from the unit under test and applies it to the TEST indicator, the TEST jack, and the LOAD switch. A low-load or full-load condition is controlled by the position of the LOAD switch. The LOW position of the switch provides a load resistance for the selected input. The FULL position of the switch adds parallel resistance to increase the load. The TEST indicator lamp is illuminated by the input voltage selected from the unit under test and indicates that it is available for measurement.

1–4. Power Input Control Circuit
(fig. 5–4)

The power input control circuit distributes primary power to the internal dc power supply circuit and to various connector jacks to provide voltages that permit the use of the AN/FPM–26 to test and bench service power supply assemblies. The 115-volt ac, 60-cps, single-phase input to the power input control circuit is applied to pins A and B of input jack J1 and line-filtered by FL1 and FL2. In series with these filters are interlock switch S1 and AC PWR circuit breaker CB1. The interlock opens when the chassis is removed from its case, thus preventing operation unless the interlock is manually defected. Circuit breaker CB1 controls the ac source and, when at ON, applies power to blower motor B1 and to pins A and B on connector jack J3. Operation of the rest of the power input control circuit depends on which cables are connected to J3 and what equipment under test is connected to the AN/FPM–26.

a. Dummy Connector Plug P1. The use of dummy connector plug P1, which is chained to the rear panel, permits static operation (such as an operational check) of the AN/FPM–26 without the TF–171/USM or TF–476/FPA transformer. When the dummy connector plug is connected to J3, terminal B of J3 is connected to terminal D of J3 and terminal A is connected to terminal C. These connections provide primary ac power to terminals TB1–8 and TB1–9 and all points within the AN/FPM–26 that are connected to them. Ac outputs are made available at J4 and J8, but no ac input is provided to the internal dc power supply.

b. Variable Power Transformer TF–171/USM. All the power supplies of the ECCM consoles except the PP–3743/FPA, which is a high-voltage power supply, are bench-serviced using the TF–171/USM. The transformer is used to vary the ac input voltage applied to the power supply under test in order to check the operation of the dc voltage-regulator circuits in the power supply under test. Primary power from terminals A and B of J3 is applied to the primary winding of the TF–171/USM. A

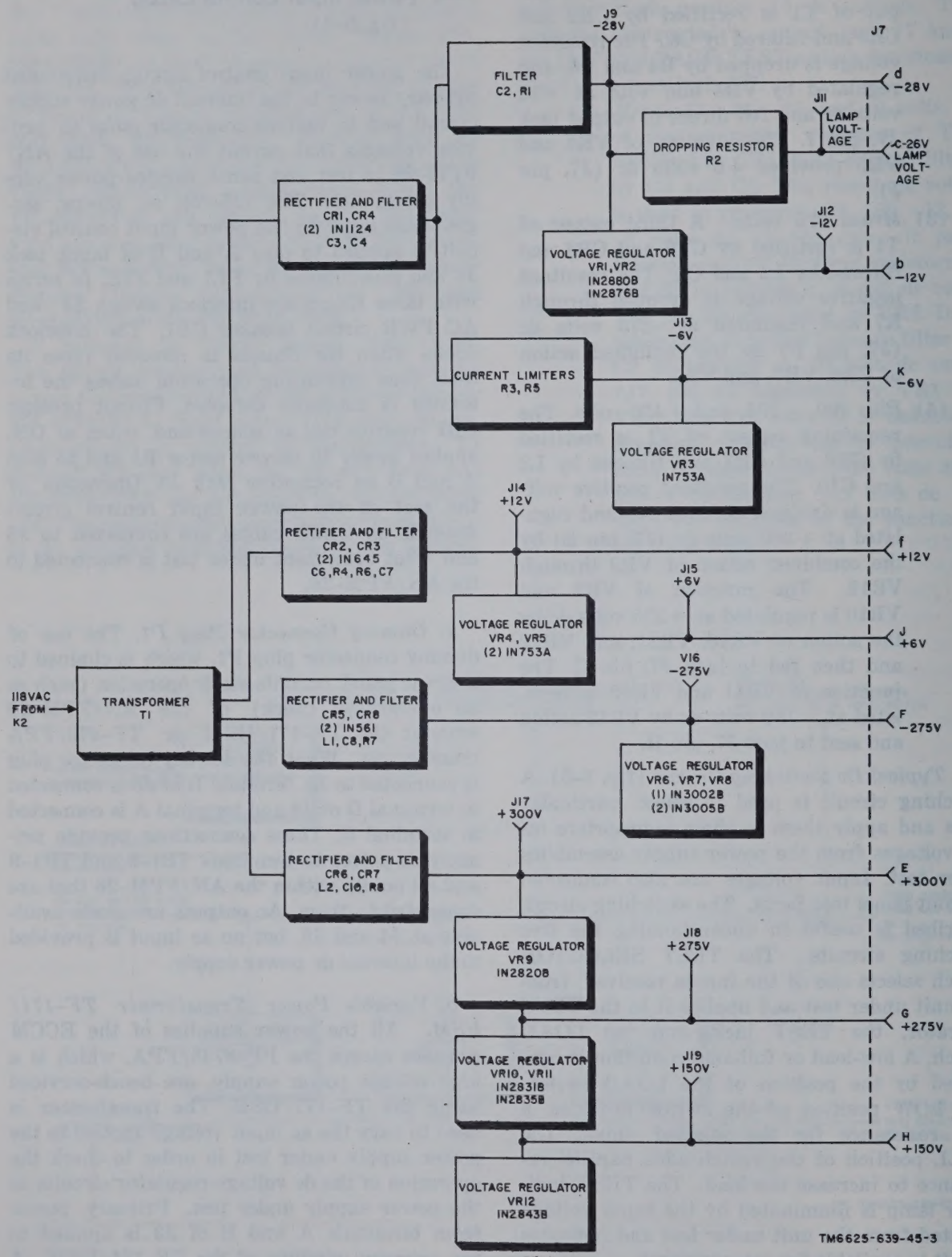


Figure 1-2. Internal dc power supply, block diagram.

variable ac voltage is applied from the secondary winding of the TF–171/USM through terminals C and D of J3 to terminals 8 and 9 of TB1. Undelayed ac power is applied to LINE VOLTAGE meter M1, STBY indicator DS1, thermal delay relay K1, contacts A1 and B1 of relay K2, and through TB2 to output terminals P and R of connector jacks J4 and J8. The LINE VOLTAGE meter should read 118 volts ac for normal input line. All indicator lamps have built-in 27K- resistors series-connected for limiting current. Approximately 1 minute after power is applied to relay K1, power is available at DC PWR switch S2, and DC READY indicator DS2 is illuminated. When closed, S2 applies power to activate relay K2. An external source of +400 volts dc, which is used only when testing Power Supply PP–3741/FPA, passes through contacts C1 and C2 of K2 and is applied to TEST SELECTOR switch S12. The EXT 400 VDC 1/8 AMP fuse protects the AN/FPS–26 from overload. Its indicator illuminates when the fuse fails. The energizing of relay K2 applies ac power to terminals T and S of connector jacks J4 and J8, to terminals G and E of jack J3 (not used), and DC PWR indicator DS3 is illuminated. No ac power is applied to the internal dc power supply.

c. Transformer, Power, Voltage Regulating TF–476/FPA. When ECCM console Power Supply PP–3743/FPA, which is a high-voltage power supply, is tested or bench serviced, the TF–476/FPA is used to hold the ac input voltage to the unit under test constant regardless of variations in the primary ac power. This is necessary ecause the PP–3743/FPA contains two transformers with high step-up-ratios, and slight variations in the ac voltage applied to it result in very large variations in its dc output voltages. Primary power from terminals A and B of J3 is applied to the primary winding of the TF–476/FPA. Regulated 118-volt ac power is applied from the secondary of the transformer to terminals C and D of J3. From this point, circuit operation is the same as in *b* above, except that the same cable that connects the TF–476/FPA to the AN/FPM–26 contains jumper connections that connect terminals E to F and G to H on J3. These connections provide regulated 118-volt ac power through TB2 and J7 to the PP–3743/FPA and to the internal dc power supply.

1–5. Internal Dc Power Supply (fig. 5–4)

Input power of regulated 118 volts ac from the power input control circuit is converted by the internal dc power supply into –28, –26 (lamp voltage), + and –12, + and –6, –275,

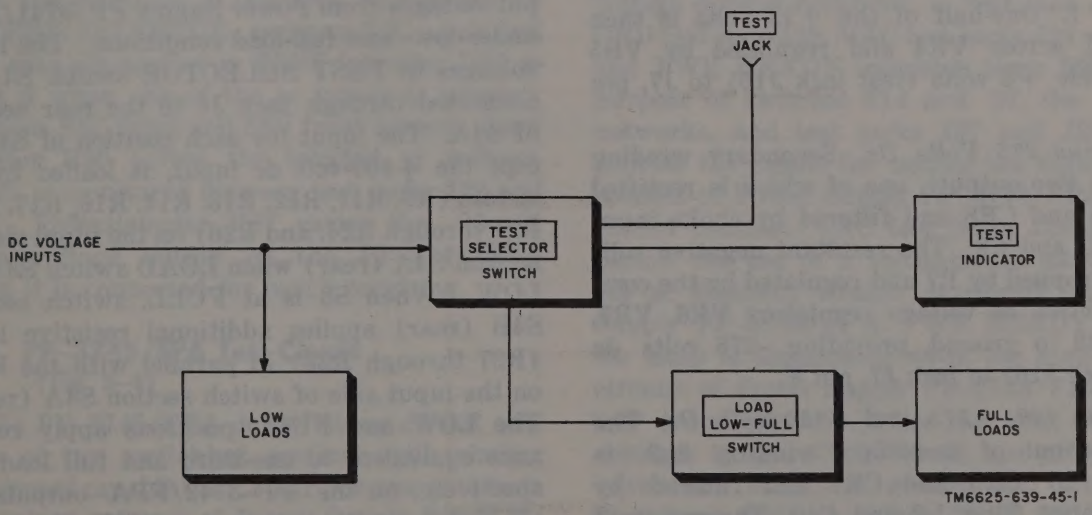


Figure 1–3. Typical dc switching circuit, block diagram.

+300, +275, and +150 volts dc for use in testing the performance of the monitoring circuits on the power control panel of ECCM console Power Supply PP–3743/FPA. Power transformer T1 has a primary and three grounded center-tapped secondary windings (3, 6, 9; 4, 6, 8; and 5, 6, 7) from which four outputs are taken. The four rectified full-wave outputs are branched off to produce the required 10 dc voltage outputs.

a. Minus 28, –26, –12, and –6 Volts Dc. The output of secondary winding 4–6–8 is full-wave rectified by CR1 and CR4 and filtered by C3 and C4. The resultant negative voltage is divided in two directions. In one case, it is dropped by R1 to –28 volts dc (test jack J9); additionally filtered by C2, regulated by VR1 and VR2, and routed to output connector jack J7, pin d. Dropping resistor R2 drops the voltage to –26 volts at connector jack J7, pin c (test jack J11). The –12-volt output at J7, pin b (test jack J12) is regulated by VR2. The other branch drops the negative voltage at C4 through resistors R3 and R5 to –6 volts dc and is regulated by VR3 at J7, pin K (test jack J13).

b. Plus 12 and +6 Volts Dc. The output of secondary winding 5–6–7 is full-wave rectified by CR2 and CR3 and filtered by C6. The resultant dc voltage is dropped by R4 and R6, additionally filtered by C7, and regulated by the combined action of VR4 and VR5 to ground, providing +12 volts (test jack J14) at J7, pin f. One-half of the +12 volts is then dropped across VR4 and regulated by VR5 to provide +6 volts (test jack J15) to J7, pin J.

c. Minus 275 Volts Dc. Secondary winding 3–9 has two outputs, one of which is rectified by CR5 and CR8 and filtered by choke input filter L1 and C8. The resultant negative voltage is dropped by R7 and regulated by the combined action of voltage regulators VR6, VR7, and VR8 to ground, providing –275 volts dc (test jack J16) to jack J7, pin F.

d. Plus 300, +275, and +150 Volts Dc. The other output of secondary winding 3–9 is rectifed by CR6 and CR7 and filtered by choke input filter L2 and C10. The resultant dc voltage is divided down and regulated by R8 and shunt voltage regulators VR9 through VR12. Plus 300 volts (test jack J17) is applied to J7–E, +275 volts (test jack J18) to J7–G, and +150 volts (test jack J19) to J7–H.

e. Metering Circuit. Each of the outputs of the internal dc power supply, except the –26-volt lamp voltage, is routed to INT VOLTAGE TEST switch S14 (in the PP–3743/FPA test area) and can be monitored with an external voltmeter at ± and GRD test jacks J27 and J28.

1–6. Dc Switching Circuits
(fig. 5–4)

The dc switching circuits consist of rotary switches, test indicator lamps, test jacks, and resistive loads connected to the power supply under test. Load switches are provided so that a partial or full load can be connected to the voltage outputs of the power supply under test. To facilitate the selection and measurement of voltages generated by the power supply under test, the control components, used to test and bench service the particular ECCM console power supplies, are located in distinct areas on the front panel (fig. 2–4). The following paragraphs describe the five dc switching circuits.

1–7. PP–3742/FPA Test Circuits
(fig. 5–4)

The purpose of the PP–3742/FPA dc switching circuit is to provide monitoring of the input voltages from Power Supply PP–3741/FPA under low- and full-load conditions. The input voltages to TEST SELECTOR switch S4 are connected through jack J4 to the rear section of S4A. The input for each position of S4, except the +400-volt dc input, is loaded by resistors (R9, R11, R12, R13, R14, R16, R17, R19, R21 through R24, and R26) on the input side of section S4A (rear) when LOAD switch S3 is at LOW. When S3 is at FULL, switch section S4B (rear) applies additional resistive loads (R27 through R33) in parallel with the loads on the input side of switch section S4A (rear). The LOW and FULL positions apply resistance equivalent to one-third and full load, respectively, on the PP–3742/FPA outputs. In all switch positions except +400V, the input voltages are applied through the wiper arm of

section S4A (rear) at terminal 11 to the ± test jack J22, terminal 1 of LOAD switch S3, and TEST indicator lamp DS4. In the +300V A position, the +300 volts (A) supplied at J4 is loaded to ground by R9, passes through terminals 3 and 11 of section of S4A (rear), and is applied to J22, terminal 1 of LOAD switch S3, and through dropping resistor R18 and TEST indicator lamp DS4 to ground. When the LOAD switch is set to FULL, an additional resistance (R27) is paralleled across the +300V A dc circuit by section S4B (rear) through terminals 12 and 3, and load on this dc circuit is increased approximately three times. The ± TEST and GRD jacks (J22 and J21) are used to make voltage and resistance checks. For the remainder of TEST SELECTOR switch positions, each dc circuit input is similarly loaded and monitored.

1–8. PP–3744/FPA Test Circuit (fig. 5–4)

The PP–3744/FPA dc switching circuit provides for monitoring of dc input voltages from Power Supply PP–3744/FPA at test jacks J29 and J31, and ac input filament voltages at J32 and J33. The dc inputs are partially loaded by R91 and R92. Additional loading is provided by R93 and R94 when LAMP/–28V LOAD switch S9 is placed at FULL. Section S8A of TEST SELECTOR switch S8 passes the selected dc input voltage to J31. Section S8B rear and S8C rear apply the selected dc voltage to TEST indicator DS7 through dropping resistors R88 and R89. The ac inputs to positions T4 through T9 of TEST SELECTOR sections S8C rear and S8B rear are applied to TEST indicator DS7 to light it when one of the ac inputs is selected. Sections S8C front and S8B front connect shunt resistor R90 across the selected ac voltage, which is monitored between test jacks J32 and J33. Potentiometer R87 varies the –26-volt lamp voltage output of the PP–3744/FPA when it is connected for bench servicing.

1–9. PP–3745/FPA Test Circuit (fig. 5–4)

The PP–3745/FPA dc switching circuit consists of two switching sections with similar functional capabilities. Their purpose is to test the output voltages of Power Supply PP–3745/FPA of the ECCM consoles under conditions of low and full load. One circuit comprises TEST SELECTOR switch S6, –LOAD switch S5, test jack J23, and –TEST indicator DS5 to control both –6-volt and –12-volt (A, B, C, and D) dc inputs of connector jack J8. The other circuit contains TEST SELECTOR switch S11, +LOAD switch S10, + test jack J34, and +TEST indicator DS8 to control both the +6-volt (A, B, C, and D) and +12-volt (A, B, and C) dc input voltages of connector jack J8. In the OFF position, TEST SELECTOR switch S11 receives the +6-volt (A, B, C, and D) and +12-volt (A, B, and C) dc input voltages from jack J8 and applies them to the input terminals of both sections S11A and S11B front and rear. Each input voltage is loaded to ground by a resistance-capacitance (rc) circuit. When switch S11 is set to A, the +6 volts (A) dc passes through terminals 2 of switch sections S11A front and S11A and S11B rear. The +6 volts (A) is then applied to terminal 1 of +LOAD switch S10, TEST indicator lamp DS8 (grounded), and + test jack 34. The +TEST indicator lamp is illuminated and, with the +LOAD switch set to LOW and FULL, the input voltage can be tested at + and GRD tests jacks J34 and J36. Other voltage inputs are connected for test in the same manner.

1–10. PP–3743/FPA Test Circuit (fig. 5–4)

This circuit contains INT VOLTAGE TEST switch S14 and TEST SELECTOR switch S7, voltage divider networks, ± test jack J27 and GRD test jack J28, VAC test jacks J24 and J26, and PWR READY indicator lamp DS6. The purpose of switches S14 and S7, the divider networks, and test jacks J27 and J28 is to provide the means for testing the high-voltage outputs of Power Supply PP–3743/FPA of the ECCM consoles. VAC test jacks J24 and J26 permit the use of a voltmeter to monitor the 6.3 ac filament voltage developed in Power Supply PP–3743/FPA. PWR READY indicator lamp is illuminated when the high-voltage circuits of Power Supply PP–3743/FPA under test are energized, indicating that the high voltages to the AN/FPM–26 are present and have been loaded to ground and attenuated by voltage dividers. When TEST SELECTOR

switch S7 is at OFF and INT VOLTAGE TEST switch S14 is at TEST SEL, +1,500 and the -6,400 volts dc are applied through connector jacks J6 (pins D, A, B, and C) and J5 (pins A and C) to the +DEFL terminal and the -ACCEL terminals of switch S7. The +1,500 volts dc is attenuated approximately 10:1 to +165 volts at +DEFL terminal 2 by its voltage divider circuit. The five -6,400-volt dc inputs are attenuated 100:1 to -64 volts dc at -ACCEL terminals 3 through 7 by their voltage divider circuits. In the +DEFL position, the +165 volts passes through switch S7 terminal 10 to ± test jack J27 by way of switch S14. When switch S7 is set in one of the -ACCEL (A, B, C, D, or E) positions, the -64 volts is routed through the same path to ± test jack J27. The +165 and -64 (A, B, C, D, and E) volts dc can be monitored by a voltmeter at ± and GRD test jacks J27 and J28.

1-11. PP-3741/FPA Test Circuit (fig. 5-4)

The PP-3741/FPA dc switching circuit contains TEST SELECTOR and LOAD switches (S12 and S13), + and GRD test jacks J37 and J38, TEST and 400 VDC indicators DS9 and DS10. These components provide for the control and monitoring of the +150-volt (A, B, and C) inputs from Power Supply PP-3741/FPA, and the +400 volts dc required by PP-3741/FPA to generate its +150-volt outputs. The +150-volt (A, B, and C) inputs are monitored at J37 and J38 under low- and full-load conditions of switch S13. The PP-3741/FPA +150-volt output voltages are connected through J8 to TEST SELECTOR switch S12B front and rear, and each is loaded to ground by R114, R116, and R117. The +400 volts dc supplied from relay K2 of the power input control circuit is connected to switch sections S12A and S12B rear. In the off position, switch S12 is open-circuited. In the EXT 400-volt dc position, the +400 volts passes through sections S12A and S12B rear. In the S12A rear section, it passes through terminals 2 and 7 to indicator lamp DS10 and through J8-X to the unit under test. In the S12B rear section, it passes through terminals 2 to 12 and is monitored between + and GRD test jacks J37 and J38. When switch S12 is at +150V A, B, or C, with LOAD switch S13 at LOW, +150 volts is applied through S12B front to TEST indicator lamp DS9 (through dropping resistor R118) and terminal 1 of S13 and through S12B rear to + test jack J37. For position A, B, or C, the TEST and +400 VDC indicator lamps are illuminated, and the +150V A, B, or C voltage is monitored at the + and GRD test jacks. The above analysis remains the same when the LOAD switch is at FULL.

CHAPTER 2

TROUBLESHOOTING

Section I. GENERAL TROUBLESHOOTING TECHNIQUES

Warning: **When servicing the AN/FPM–26, be extremely careful of high voltages. Always disconnect power before removing the chassis from its case. Before touching any part of the circuitry with power off, short-circuit all filter capacitors to ground to dissipate any residual charge which may be retained by a capacitor. When operating the unit out of its case, do not touch high-voltage rectifiers CR5 through CR8, test jacks in the bottom of the chassis, connector jack J7, nor any exposed circuit points within the chassis.**

2–1. General Instructions

Troubleshooting at the general support and depot maintenance category includes all the techniques outlined for organizational maintenance and any additional techniques required to isolate a defective part. The general support and depot maintenance procedures are not complete in themselves, but supplement those set forth in TM 11–6625–639–12. The systematic troubleshooting procedures which begin with the operational and localization checks that can be made at an organizational maintenance category must be completed by localization and isolation techniques at general support and depot maintenance categories.

2–2. Organization of Troubleshooting Procedures

a. General. The first procedure in servicing a defective AN/FPM–26 is localization, which means tracing the fault to the defective circuit responsible for the abnormal operation. Some localization may have been carried out at the organizational maintenance category. Always refer to the repair tag before beginning work on the equipment. The repair tag will tell how the equipment has malfunctioned and what has been attempted by way of repairs; thus, it will simplify the search for trouble at the support and depot maintenance categories. The second procedure is isolation; that is, tracing the fault to a defective component or components causing the abnormal condition. Some defective parts, like burned-out resistors and arcing, shorted transformers, can often be located by sight, smell, or hearing. Most defective components, however, must be isolated by checking voltages and resistance.

b. Localization. Trace the trouble to the particular circuit at fault as follows:

(1) *Visual inspection.* The purpose of visual inspection is to locate faults without testing or using testing equipment. Abnormal appearance of components includes mechanical and physical breaks, obvious short-circuits or ground paths, and evidences of overheating. Visual inspection is normally performed with no power applied to AN/FPM–26.

(2) *Operational tests.* Operational tests frequently indicate the general location and, in many cases, will determine the exact nature of the trouble. The daily preventive maintenance checks and services chart (TM 11–6625–639–12) contains an operational test procedure.

(3) *Troubleshooting chart.* The troubleshooting chart (para 2–7) lists symptoms of common troubles and gives or references corrective measures. Such a chart obviously cannot include all trouble symptoms that may occur. The

repairman should use this chart as a guide in analyzing symptoms that may not be listed.

c. Isolation. Procedures for isolating troubles within a circuit are given in paragraph 2–8.

d. Techniques. In performing the localization and isolation procedures, one or more of the techniques below may be applied. Apply these techniques *only* as indicated, and observe all cautions.

(1) *Voltage measurements.* Voltage present at various points within the AN/FPM–26 are given in the charts in paragraph 2–9. To take readings, use the multimeter or an equivalent, as specified in paragraph 2–3.

(2) *Resistance measurements.* Make resistance measurements in the AN/FPM–26 only as directed in paragraph 2–5. Value of resistance present at various points are provided in the charts in paragraph 2–9.

(3) *Test points.* Five sets of test jacks with their TEST SELECTOR switches are grouped separately on the front panel. Another set of test jacks, which are associated with the internal dc power supply outputs (J9 through J19) are mounted on a panel on the bottom of the chassis (fig. 2–1). Test jacks are used to facilitate connection of test equipment to AN/FPM–26 and to avoid needless disassembly of the equipment during isolation of trouble. These test points are shown on the complete schematic diagram (fig. 5–4) and on parts location diagrams (fig. 2–1 through 2–4). Internal dc power supply output test jacks, in addition to their use in taking voltage and resistance checks, are also used to make ripple voltage checks.

(4) *Intermittent troubles.* In all these tests, the possibility of intermittent trouble should not be overlooked. If present, this type of trouble often may be found by tapping or jarring the equipment. Check the wiring (continuity) and connections to the equipment.

2–3. Test Equipment Required

The following chart lists test equipment and their technical manuals required for troubleshooting the AN/FPM–26. Also listed are the common names of each piece of equipment.

Test Equipment	Technical manuals	Common name
Cable Assembly Kit MK–753/FPA.	TM 11–5995–204–15	Cable kit.
Multimeter ME–26B/U.	TM 11–6625–200–12	Vtvm.
Power Supply PP–3941/G.	TM 11–6130–242–15	400-volt power supply
Tool Kit, Electronic Equipment Repair TK–100/G.	SB 11–549	Tool kit.
Transformer, Power, Voltage Regulating TF–476/FPA.		
Oscilloscope AN/USM–81.	TM 11–6625–219–12	Oscilloscope.

Section II. TROUBLESHOOTING TEST SET POWER SUPPLY AN/FPM–26

Caution: **Do not attempt removal or replacement of parts before reading instructions in paragraph 3–1.**

2–4. Preliminary Procedure

a. Place the malfunctioning AN/FPM–26 on a test bench, and loosen the 16 knurled captive screws on its front panel to remove the chassis from its case.

b. Visually inspect all components inside the top and bottom of the chassis. Look for burnt or swollen capacitors, inductors, resistors and transformers and charred wiring. Replace all damaged components or wiring before attempting troubleshooting of the equipment.

2–5. Static Testing

Use a vacuum-tube voltmeter (vtvm) to per-

form resistance measurements under conditions of no power applied, according to the following chart. The purpose of these tests is to locate short circuits in the power input and internal dc power supply circuits to avoid possible damage when energized. Set all LOAD switches to LOW and the interlock switch to the closed position; turn the INT VOLTAGE TEST switch to TEST SEL and all other switches to OFF. If resistance values indicated in the chart are not obtained, isolate the trouble by further resistance checks (para 2–8, 2–9, and 2–10). Zero or very low resistance indicates a defective circuit within the AN/FPM–26. Values given in the chart below were obtained using Multimeter ME–26B/U.

From	To	Dc resistance	
		Range	Ohms
J1–A	GRD		OPEN
J1–B	GRD		OPEN
J1–A	J1–B		OPEN
J2–A	GRD		OPEN
J3–A	GRD		OPEN
J3–B	GRD		OPEN
J3–A	J3–B	RX100	830
J3–C	GRD		OPEN
J3–D	GRD		OPEN
J3–C	J3–D	RX100	4,000
J3–E	GRD		OPEN
J3–G	GRD		OPEN
J3–E	J3–G	RX100	27K
J3–F	GRD		OPEN
J3–H	GRD		OPEN
J3–F	J3–H		OPEN
J4–P	GRD		OPEN
J4–R	GRD		OPEN
J4–P	J4–R	RX100	4,000
J4–S	GRD		OPEN
J4–T	GRD		OPEN
J4–S	J4–T	RX100	27K
J7–d	GRD	RX100	Infinity
J7–c	GRD	RX100	Infinity
J7–b	GRD	RX1M	22M
J7–K	GRD	RX1M	45M
J7–f	GRD	RX100	2,800
J7–J	GRD	RX100	1,500
J7–F	GRD	RX100	Infinity
J7–E	GRD	RX100	3,700
J7–G	GRD	RX100K	2.4M
J7–H	GRD	RX100	900

2–6. Test Setup

Bench tests of the AN/FPM–26 require connection to ac and dc power sources. As in normal operation, the power inputs are connected to the AN/FPM–26 by two cables of Cable Assembly Kit MK–753/FPA. Prepare for bench tests as follows:

a. Connect power cable CX–9399/FPA (W7) of the MK–753/FPA to a primary source of 115-volt ac, 60 ±3-cps, and to 115 VAC, 60 CPS jack J1 at the rear of the AN/FPM–26 unit.

b. Connect plug P1 of cable CX–9402/FPA (W10) to +400 VDC jack J2 on the +AN/FPM–26 rear panel, and terminal lugs E1 and E2 of W10 to the HV + and HV – binding posts of Power Supply PP–3941/G.

c. Connect dummy connector plug P1 (chained to the AN/FPM–26 rear panel) to the TF–476/FPA or TF–171/USM jack J3.

2–7. Troubleshooting

a. General. In the troubleshooting chart (*d* below), procedures are outlined for localizing the causes of malfunctions in the AN/FPM–26 without the use of associated transformers and power supplies (para 2–6). Because the dc switching circuits operate independent of one another, and because their normal operation depends on their being connected to the ECCM console power supplies they were designed to test, symptoms that might be reported by the user are listed. Therefore, if any of the following general symptoms has been observed, proceed directly to the step in the troubleshooting chart as indicated below. Depending upon the nature of the operational symptom, one or more localizing procedures will be necessary. These should be performed while referring to the complete schematic diagram (fig. 5–4), and the parts location diagrams (fig. 2–1 through 2–8). Voltage and resistance data are given in paragraph 2–9 and 2–10. When trouble has been localized, use the voltage and resistance measurements charts, the schematic diagram, and the ME–26B/U to isolate the malfunction to a component part.

General symptoms	Step
PP–3741/FPA TEST circuits do not properly check Power Supply PP–3742/FPA.	9
PP–3742/FPA TEST circuits do not properly check Power Supply PP–3742/FPA.	10

General symptoms	Step
Internal dc power supply does not properly check monitoring circuits of Power Supply PP-3743/FPA.	11
PP-3743/FPA TEST circuits do not properly check the high dc voltage circuits of Power Supply PP-3743/FPA.	12
PP-3744/FPA TEST circuits do not properly check Power Supply PP-3744/FPA.	13
PP-3745/FPA TEST circuits do not properly check Power Supply PP-3745/FPA.	14

b. Use of Chart. When an abnormal symptom has been observed in the equipment, look for a description of this symptom in the *Symptom* column, and perform the corrective measures shown in the *Corrective measures* column. If no operational symptoms are known, begin with item 5 of the preventive maintenance checks and services chart (TM 11-6625-639-12) and proceed until a trouble symptom appears.

Caution: **If operational symptoms are not known, or if they indicate the possibility of short circuits within the AN/FPM-26, perform the procedures given in paragraph 2-5 before applying power to the unit.**

c. Conditions to Tests. All checks outlined in the chart are to be conducted with the AN/FPM-26 connected to a power source, as described in paragraph 2-6.

d. Troubleshooting Chart.

Note: Perform the daily preventive maintenance checks given in TM 11-6625-639-12 before using this chart unless the trouble has already been localized.

Symptom	Probable trouble	Correction
1. Blower motor B1 does not run, line voltage meter M1 reads zero, and STBY indicator lamp DS1 does not light when AC PWR circuit breaker is set to ON.	Loss of primary power to the AN/FPM-26.	Check for presence of 115-volt ac input between TB1 terminals 1 and 2 and jack J1 pins A and B (fig. 5-4). If voltage is not present, check continuity of cable W7 by following the procedure in paragraph 4-12 of TM 11-6625-639-12.
	Defective line filter FL1 or FL2.	Check for the presence of 115 volts ac between the outputs of FL1 and FL2.
	Defective interlock syitch S1.	Check for presence of 115 volts ac between outputs of switch S1.
	Defective AC PWR circuit breaker CB1.	Check for presence of 115 volts ac between outputs of circuit breaker CB1.
2. STBY indicator lamp DS1 does not light, LINE VOLTAGE meter M1 reads 0 volt, but blower motor runs.	Defective dummy plug P1 ------	Check presence of 115 volts ac at terminals 8 and 9 of TB1 (fig. 5-4). If not present, remove dummy plug and check for continuity between pins A and C, and B and D.
3. LINE VOLTAGE meter reads 0 volt when AC PWR circuit breaker is set to ON and STBY indicator lamp DS1 lights.	Defective LINE VOLTAGE meter M1.	Check LINE VOLTAGE meter M1.
4. LINE VOLTAGE meter M1 reads 115 volts ac, but STBY indicator lamp DS1 does not light, even though replaced.	Defective STBY lamp holder XDS1.	Check lampholder XDS1.

Symptom	Probable trouble	Correction
5. DC READY indicator lamp DS2 does not light (after time delay) even though replaced.	Defective DC READY lampholder XDS2 or time delay relay K1.	Check for presence of 115 volts ac across terminals 7 and 3 of relay K1. If voltage is present, check lampholder XDS2. If voltage is not present, check relay K1.
6. When DC PWR switch S2 is set to ON, DC PWR indicator lamp DS3 does not light (after time delay), even though replaced.	Defective DC PWR switch S2, relay K2, or lampholder XDS3.	Check for presence of 115 volts ac across terminals X1 and X2 of relay K2. If correct voltage is not obtained, check switch S2. If correct voltage is obtained, check for presence of 115 volts ac between terminals TB2–3 and TB2–4. (1) If correct voltage is obtained, check lampholder XDS3. (2) If correct voltage is not obtained, check relay K2.
7. EXT 400 VDC, 1/8 AMP fuse indicator lamp is illuminated.	Blown fuse F1	Replace defective fuse F1. If fuse blows again, check for short circuit.
8. The 400 VDC indicator lamp, DS10, of PP–3741/FPA TEST area of front panel does not light when TEST SELECTOR is set to EXT 400VDC, even though 400 VDC lamp DS10 has been replaced.	Loss of dc power input to the AN/FPM–26.	Check for presence of 400-volt dc input from TB1–6 to ground. If voltage is not present, check continuity of cable W10, according to procedure given in paragraph 4–12 of TM 11–6625–639–12. If voltage is present, check for presence of +400 volts dc between terminal TB2–12 and ground.
	Defective relay K2	(1) If voltage is not present, check relay K2.
	Defective TEST SELECTOR switch S12, R121, or XDS10.	(2) If voltage is present, check for presence of +400 volts dc at connector J8 pin X. If voltage is not present, check switch S12B front. If voltage is present, check R121 and lampholder XDS10.
9. PP–3741/FPA TEST circuits do not properly check Power Supply PP–3741/FPA when testing a PP–3741/FPA:		
a. 400 VDC indicator lamp of the PP–3741/FPA TEST area of control panel does not light when TEST SELECTOR switch is set to EXT 400VDC, even though 400 VDC indicator lamp has been replaced.	*a.* See steps 7 and 8	*a.* See steps 7 and 8.

Symptom	Probable trouble	Correction
b. TEST indicator lamp does not light for the +150 V, A, B, or C position of TEXT SELECTOR switch S12, even though test indicator DS9 has been replaced. Also LOAD switch S13 is at LOW, and ME–26B/U reads 150 volts dc between + (J37) and GRD (J38) test jacks on the PP–3741/FPA TEST area of the front panel.	*b.* Defective resistor R118, lampholder XDS9, or switch section S12B front.	*b.* Check R118 and lampholder XDS9. Check continuity of switch section S12B front.
c. TEST indicator lamp does not light for one of the +150V, A, B, or C positions of TEST SELECTOR switch S12. Also, LOAD switch S13 is at LOW or FULL and ME–26B/U reads 0 volt between + and GRD test jacks on PP–3741/FPA TEST area of front panel.	*c.* Short or open circuit on input side of TEST SELECTOR switch S12B front and rear in the circuit for the +150V selected.	*c.* Check for continuity from connector jack J8 to the terminal of switch sections S12B front and rear for the +150V position selected. Also check resistor R114, R116, or R117 for the +150V position selected.
d. TEST indicator lamp lights for the +150V, A, B, or C position of TEST SELECTOR switch S12, with LOAD switch S13 at LOW. In FULL position, TEST indicator lamp does not light for the TEST SELECTOR switch positions, and ME–26B/U reads 0 volt between + and GRD test jacks on the PP–3741/FPA TEST area of the front panel.	*d.* Defective resistor R119 or LOAD switch S13.	*d.* Check continuity of R119. Remove TEST lamp from lampholder DS9 and check continuity of LOAD switch.
10. PP–3742/FPA TEST circuits do not properly check Power Supply PP–3742/FPA. When testing a PP–3742/FPA:		
a. TEST indicator lamp does not light, even though replaced, for all of TEST SELECTOR switch S4 positions. Also, LOAD switch S3 is at LOW, and ME–26B/U reads the selected voltage of switch S4 between ± (J22) and GRD (J21) test jacks on the PP–3742/FPA TEST area of the front panel.	*a.* Defective resistor R18 or lampholder XDS4.	*a.* Check R18 and lampholder XDS4.
b. TEST indicator lamp does not light, even though replaced, for all of the TEST SELECTOR switch positions. Also, LOAD switch S3 is at LOW, and ME–26B/U reads 0 volt dc between ± and GRD test jacks on PP–3742/FPA TEST area of front panel.	*b.* Defective TEST SELECTOR switch S4, resistor R18, or lampholder XDS4.	*b.* Check continuity of switch section S4A rear. Check R18 and lampholder XDS4.

Symptom	Probable trouble	Correction
c. TEST indicator lamp does not light for one of the TEST SELECTOR switch S4 positions. Also, LOAD switch S3 is at LOW, and ME–26B/U reads 0 volt dc (for the above position) between ± and GRD test jacks on the PP–3742/FPA TEST area of front panel.	*c.* Short or open circuit on the input side of switch section S4A rear for the position selected or defective resistor(s).	*c.* Check for continuity from the pin of jack J4, for the TEST SELECTOR position selected, to GRD and to the corresponding terminal of switch section S4A rear (para 2–9). Check continuity of switch section S4A rear.
d. TEST indicator does not light for one of the TEST SELECTOR switch S4 positions. Also, LOAD switch S3 is at FULL, and ME–26B/U reads 0 volt dc on PP–3742/FPA TEST area of front panel.	*d.* Short circuit in switch section S4B rear or in a resistive load connected to switch section S4B rear for the position selected.	*d.* Check continuity of switch section S4B rear and for shorts from S4B rear to ground for the position of switch S4 selected.
11. Internal dc power supply does not properly check monitoring circuits of Power Supply PP–3743/FPA when testing a PP–3743/FPA:		
a. Voltage not obtainable between ± and GRD jacks on the PP–3743/FPA TEST area of the front panel when INT VOLTAGE TEST switch S14 is set to its nine voltage positions and TEST SELECTOR switch S7 is at OFF.	*a.* Loss of input power to transformer T1, or defective transformer T1.	*a.* Check dc resistance of primary and secondary windings of transformer T1 (para 2–10). If normal, check continuity of cable W3 according to procedures given in paragraph 4–12 of TM 11–6625–639–12. If normal, check continuity of cable W9 and the TF–476/FPA. *Note.* Before taking resistance measurements in the following steps, momentarily short circuit the terminals of all capacitors in the internal power supply (fig. 5–14).
b. Voltage not obtainable between ± and GRD test jacks on the PP–3743/FPA TEST area of the front panel when INT VOLTAGE TEST switch S14 is set to –28V, –12V, or –6V, and TEST SELECTOR switch S7 is at OFF.	*b.* Defective component CR1, CR4, C3, or C4.	*b.* Check resistance of components from T1 to jack J7, pins d, c, b, and K to GRD (para 2–9).
c. The same symptoms as in *b* above for INT VOLTAGE TEST switch set to +12V or +6V.	*c.* Defective component CR2, CR3, C6, R4, or R6.	*c.* Check voltage and resistance of components from T1 to jack 7, pine f and J, to GRD (para 2–9).
d. The same symptoms as in *b* above for INT VOLTAGE TEST switch set to –275V.	*d.* Defective component CR5, CR8, L1, C8, or R7.	*d.* Check resistance of components from T1 to jack J7, pin F, to GRD (para 2–9).
e. The same symptoms as in *b* above for INT VOLTAGE TEST switch set to +300V, +275V, or +150V.	*e.* Defective component CR6, CR7, L2, C10, or R8.	*e.* Check resistance of components from T1 to jack J7, pins E, G, and H, to GRD (para 2–9).
12. PP–3743/FPA TEST circuits do not properly check the high voltage circuits of		

Symptom	Probable trouble	Correction
Power Supply PP–3743/FPA. When testing a PP–3743/FPA:		
a. PWR READY indicator lamp DS6 of the PP–3743/FPA TEST area of control panel does not light when Power Supply PP–3743/FPA is connected to the AN/FPA–26, even though lamp DS6 has been replaced.	*a.* Defective lampholder XDS6	*a.* Check lampholder.
b. No voltage between ± and GRD test jacks when TEST SELECTOR switch is set to + DEFL, and INT VOLTAGE TEST switch is set to TEST SEL.	*b.* Defective resistor or resistors between jack J6, pin D, and terminal 2 of TEST SELECTOR switch S7, or lack of continuity from terminal 2 of S7 to the ± test jack.	*b.* Check resistance from J6, pin D, to terminal 2 of S7. It should be approximately 4,500 ohms. If abnormal, check each resistor. If normal, check continuity from terminal 2 of S7 to the ± test jack.
c. No voltage between ± and GRD test jacks for one of the –ACCEL positions of the TEST SELECTOR switch, and INT VOLTAGE TEST switch is set to TEST SEL.	*c.* Defective resistor or resistors between connector jack J5 or J6 and the terminal on TEST SELECTOR switch for the –ACCEL position.	*c.* Check voltage divider resistors between the connector jack and the terminal of the TEST SELECTOR switch for the –ACCEL position.
13. PP–3744/FPA TEST circuits do not properly check Power Supply PP–3744/FPA. When testing a PP–3744/FPA:		
a. TEST indicator lamp does not light, even though replaced, when TEST SELECTOR switch S8 is set to any position, but normal readings are obtained at ac and dc test jacks.	*a.* Defective lampholder XDS7	*a.* Check lampholder XDS7.
b. TEST indicator lamp does not light when TEST SELECTOR switch S8 is set to one of its T4 through T7 positions, and ac voltage reads 0 volt for the same position between the VAC test jacks.	*b.* Short or open circuit between jack J4 and TEST SELECTOR switch sections S8C rear and front and S8B rear and front.	*b.* Check for continuity and short circuit from jack J4 to switch sections S8C and S8B for the malfunctioning position.
c. TEST indicator lamp does not light when TEST SELECTOR S8 is set to LAMP, and LAMP VOLT ADJ control is in any position. The ME–26B/U reads 0 volt dc between – (J31) and GRD (J29) test jacks on PP–3744/FPA TEST area of front panel.	*c.* Defective LAMP VOLT ADJ potentiometer R87, R89, or R91.	*c.* Check R87, R89 and R91.
d. TEST indicator lamp DS7 does not light for the –28V position of TEST SELECTOR switch S8, and ME–26B/U	*d.* Defective R88 or R92	*d.* Check R88 and R89.

Symptom	Probable trouble	Correction
reads 0 volt dc between – (J31) and GRD (J29) test jacks on PP–3744/FPA TEST area of front panel.		
e. TEST indicator lamp lights but dc readings are 0 volt between the – and GRD test jacks on PP–3744/FPA TEST area of front panel.	*e.* Defective TEST SELECTOR switch section S8A rear.	*e.* Check continuity between terminals 8 and 9 to terminal 12 of switch section S8A rear.
f. Test indicator lamp DS7 lights, but ac readings are zero between the VAC test jacks on PP–3744/FPA TEST area of front panel.	*f.* Defective TEST SELECTOR switch section S8C front or S8B front.	*f.* Check continuity of used positions of S8C front and S8B front.
14. PP–3745/FPA TEST circuits do not properly check Power Supply PP–3745/FPA. When testing a PP–3745/FPA:		
a. The – TEST indicator lamp (DS5) does not light, even though replaced, for all positions of TEST SELECTOR switch S6, but external vtvm reads normal in all positions between – (J23) and GRD (J36) test jacks on PP–3745/FPA TEST area of front panel.	*a.* Defective TEST SELECTOR switch section S6A rear or lampholder XDS5.	*a.* Check for continuity through TEST SELECTOR switch section S6A rear, and check lampholder XDS5.
b. The – TEST indicator lamp (DS5) does not light for one of the –6V or –12V positions of TEST SELECTOR switch S6, and the external vtvm reads 0 volt dc for the above position between – and GRD test jacks on PP–3745/FPA TEST area of front panel.	*b.* Open circuit to TEST SELECTOR switch section S6A rear or S6B rear, or defective rc network in the input to the malfunctioning position.	*b.* Check for continuity and shorts between J8 and the input terminal of S6A rear and S6B rear for the malfunctioning position. Also check the input rc network.
c. The – TEST indicator lights, but for any of the –6V or –12V positions of TEST SELECTOR switch S6, the external vtvm reads 0 volt between – and GRD test jacks on PP–3745/FPA TEST area of front panel.	*c.* Defective switch section S6B rear.	*c.* Check switch section S6B rear.
d. The + TEST indicator lamp (DS8) does not light, even though replaced, for all positions of TEST SELECTOR switch S11, but external vtvm reads normal in all positions between + (J34) and GRD (J36) test jacks on PP3745/FPA TEST area of front panel.	*d.* Defective TEST SELECTOR switch section S11A rear or lampholder XDS8.	*d.* Check for continuity through TEST SELECTOR switch section S11A rear and check lampholder XDS8.

Symptom	Probable trouble	Correction
e. The + TEST indicator lamp (DS8) does not light for one of the +6V or +12V positions of TEST SELECTOR switch S11, and the external vtvm reads 0 volt dc for the above position between – and GRD test jacks on PP–3745/FPA TEST area of front panel.	*e.* Open circuit to TEST SELECTOR switch section S11A rear or S11B rear, or defective rc network in the malfunctioning position.	*e.* Check for continuity and shorts betweeen J8 and the input terminal of S11A rear and S11B rear for the malfunctioning position. Also check the input rc network.
f. The + TEST indicator lamp (DS8) lights, but for any of the +6V or +12V positions of TEST SELECTOR switch S11, the external vtvm reads 0 volt between + and GRD test jacks on PP–3745/FPA TEST area of front panel.	*f.* Defective switch section S11B rear.	*f.* Check switch section S6B rear.

2–8. Trouble Isolation

When trouble has been localized to a particular circuit by operational checks, use the following techniques to isolate the defective part:

a. Take resistance readings (para 2–9) to isolate open and shorted circuits. Refer also to the dc resistance of inductive components listed in paragraph 2–10.

b. When checking capacitors with an ohmmeter, the indicator needle should initially swing toward zero, and then rapidly swing in the opposite direction as the capacitor charges.

c. Use the schematic diagram (fig. 5–4) to trace and to isolate the fault to a component.

2–9. Voltage and Resistance Data

a. The following chart gives voltage and resistance measurements needed to troubleshoot the AN/FPM–26. This chart is based on the conditions listed below:

(1) All resistances and dc voltages were measured with an ME–26B/U.

(2) All resistance and dc voltage readings are to chassis ground: +ohms readings are taken with COMMON lead of meter on chassis ground; -ohms taken with ohms lead on chassis ground.

(3) Resistance readings were taken with AN/FPM–26 disconnected from all power sources and cables. Set all LOAD switches to LOW; turn all TEST SELECTOR switches to OFF.

(4) Voltage readings were taken with the AN/FPM–26 connected to primary source of 115 volts ac, 60 cps ±0.6 and to the TF–476/FPA. Also, connect plug P3 of cable W3 to connector jack J7, or connect a jumper wire between pins C and D of J7 (fig. 5–4). The AN/FPM–26 AC PWR and DC PWR switches are set to ON.

Component or jack	Terminals	Voltage		Resistance		
		Range	Volts	Range	+ohms	-ohms
J1	A, B			RX1M	Infinity	Infinity
	C (GRD)			RX1	0	0
J2	A, C			RX1M	Infinity	Infinity
	B (GRD)			RX1	0	0
J3	A through H			RX1M	Infinity	Infinity
	J (GRD)			RX1	0	0
J4	A through L			RX1M	Infinity	Infinity
	M, V & Z			RX1	0	0
	P, R, S, T, X			RX1M	Infinity	Infinity
J4	a			RX1	16	16

Component or jack	Terminals	Voltage		Resistance		
		Range	Volts	Range	+ohms	-ohms
	b, c			RX1M	Infinity	Infinity
	d			RX1	24	24
	e, f			RX1K	57K	57K
				RX1K	15K	15K
	g, k			RX1K	26K	26K
	h, j			RX1K	9K	9K
J5	A, C			RX10K	16M	16M
	B			RX1M	Infinity	Infinity
J6	A, B, C			RX10K	16M	16M
	D			RX100	4.5K	4.5K
	K (GRD)			RX1	0	0
	M, N			RX1M	Infinity	Infinity
J7	A, B, C, D			RX1M	Infinity	Infinity
	E	1,000 vdc	+300	RX100	3,700	Infinity
	F	1,000 vdc	-275	RX100	Infinity	9K
	G	1,000 vdc	+275	RX100K	2.4M	
				RX1M		50M
	H	300 vdc	+150	RX100	900	
				RX1M		40M
J7	I, V, Y, & Z (GRD).			RX1	0	0
	J	10 vdc	+6.2	RX100	1,500	
				RX1M		12M
	K	10 vdc	-6.2	RX1M	45M	
				RX100		1K
	b	30 vdc	-12	RX1M	22M	
				RX100		1,150
	c	30 vdc	-28	RX100	Infinity	950
	d	30 vdc	-28	RX100	Infinity	1K
	f	30 vdc	+12.4	RX100	2,800	Infinity
J8	A, B, C, D			RX1	33	33
	E, F, G, H			RX1	51	51
	I, V & Z (GRD).			RX1	0	0
	J, K, L			RX1K	1.8K	1.8K
	P, R, S, T			RX1M	Infinity	Infinity
	X			RX1M	Infinity	Infinity
	a, b, c, d			RX10	90	90
	h, j, k			RX10	90	90
J9		30 vdc	-28	RX100	Infinity	950
J10 (GRD)		1 vdc	0	RX10	0	0
J11		30 vdc	-28	RX100	Infinity	1K
J12		30 vdc	-12	RX1M	22M	
				RX100		1,150
J13		10 vdc	-6.2	RX1M	45M	
				RX100		1,000
J14		30 vdc	+12.4	RX100	Infinity	2,800
J15		10 vdc	+6.2	RX100	12M	
				RX1M		1,500
J16		1,000 vdc	-275	RX100	Infinity	9K
J17		1,000 vdc	+300	RX100	3,700	Infinity
J18		1,000 vdc	+275	RX100K	2.4M	
				RX1M		50K
J19		300 vdc	+150	RX100	900	
				RX1M		40M
VR8	Anode	300 vdc	-100	RX1M	60M	
				RX100		1,100
VR7	Anode	300 vdc	-200	RX1M	40M	
				RX100K		1.2M
VR10	Anode	300 vdc	-225	RX1M	5M	20M

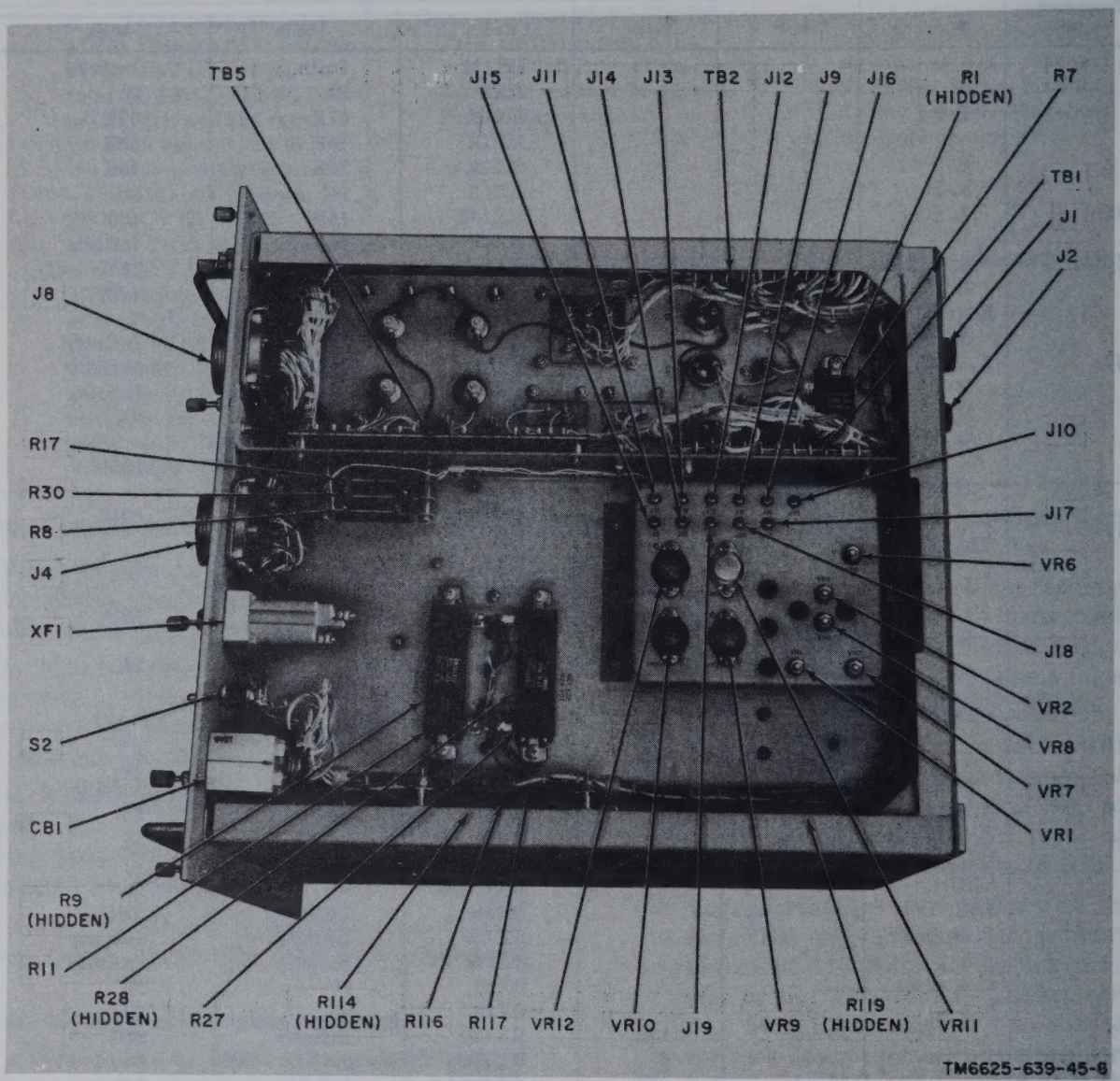


Figure 2-1. Test Set, Power Supply AN/FPM-26 chassis, buttom view.

b. The following chart lists the out-of-circuit resistances of the semiconductor diodes that are used in the AN/FPM-26. All measurements were taken with an ME-26B/U.

Diode type	Range	Resistance	
		Reverse	Forward
1N561	RX10K	38K	100M
	RX1M		
1N645	RX10K	60K	Infinity
	RX1M		
1N1124	RX10K	44K	

Diode type	Range	Resistance	
		Reverse	Forward
	RX1M		100M
1N753A	RX100	1,500	Infinity
1N2820B	RX100	1,100	Infinity
1N2831B	RX100	1K	Infinity
1N2835B	RX100	900	Infinity
1N2843B	RX100	900	Infinity
1N2976B	RX100	1,100	Infinity
1N2980B	RX100	1,100	Infinity
1N3002B	RX100	1,100	Infinity
1N3005B	XR100	1,100	Infinity

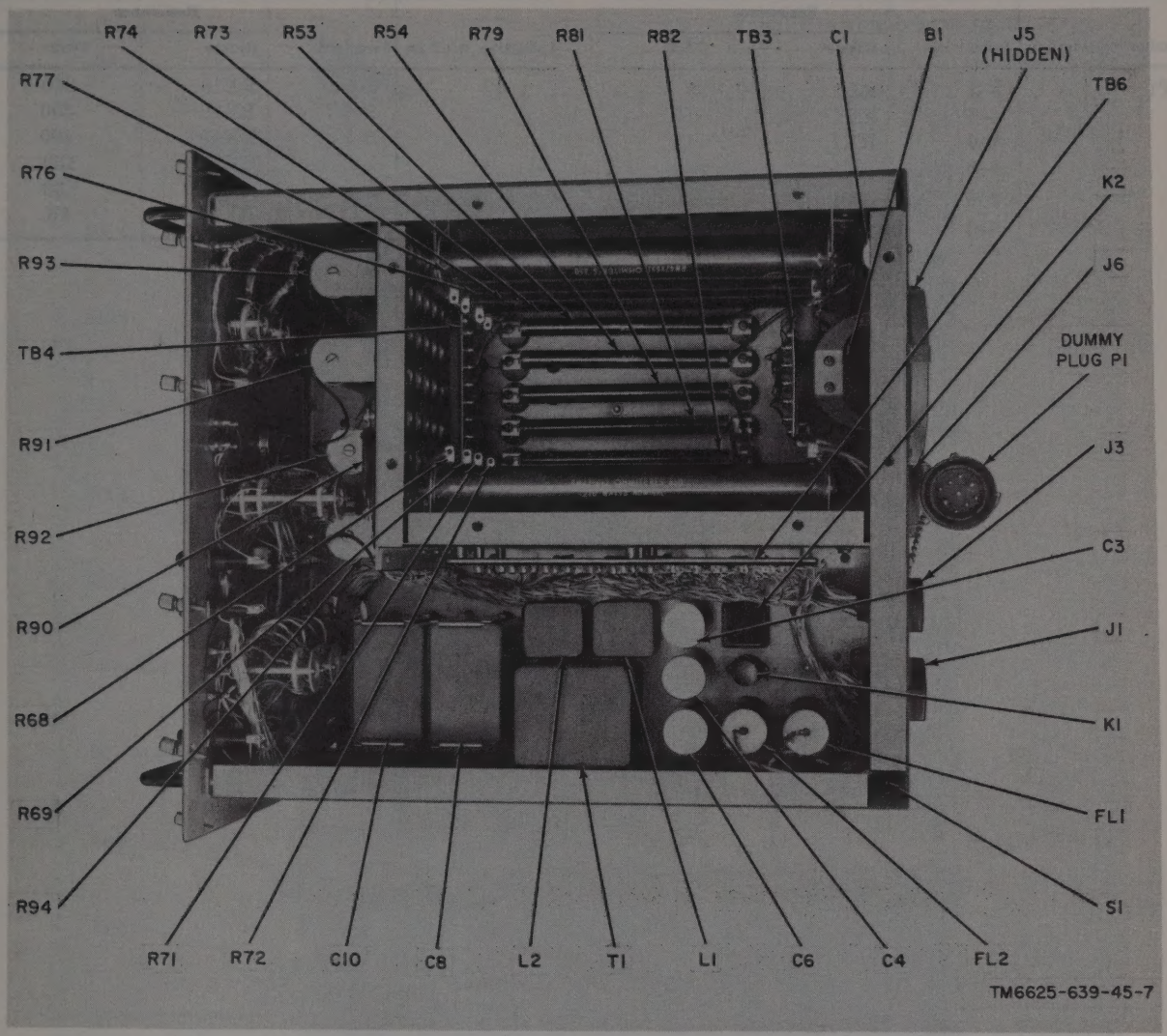


Figure 2–2. Test Set, Power Supply AN/FPM–26 chassis, top view.

2–10. Dc Resistance of Inductive Components

a. The open-circuit dc resistance data (*b* below) are provided as an aid to troubleshooting. Observe the following when using the data:

(1) Determine that faulty operation is most likely due to a defective coil or transformer before making resistance measurements of the winding. To do this, follow the troubleshooting procedures (para 2–5 and 2–7) and perform voltage and resistance measurements, using the data provided in paragraphs 2–8 and 2–9.

(2) Do not use the resistance measurements as the sole basis for discarding a transformer or coil as defective. Bear in mind that, due to rather broad winding tolerances during manufacture, resistances may vary from one transformer or coil to another. The chart values are typical values.

b. The open circuit dc resistances of the transformer windings and the coils in the AN/FPM–26 are listed below:

Inductive winding	Terminals	Resistance	
		Range	Ohms
T1	1–2	RX1	3
	4–6	RX1	15
	8–6	RX1	15
	4–8	RX10	30
	5–6	RX1	10
	7–6	RX1	10
	3–6	RX10	200
	9–6	RX10	200
	3–9	RX100	400
L1	1–2	RX10	130
L2	1–2	RX10	130
K2	X1–X2	RX1K	4K

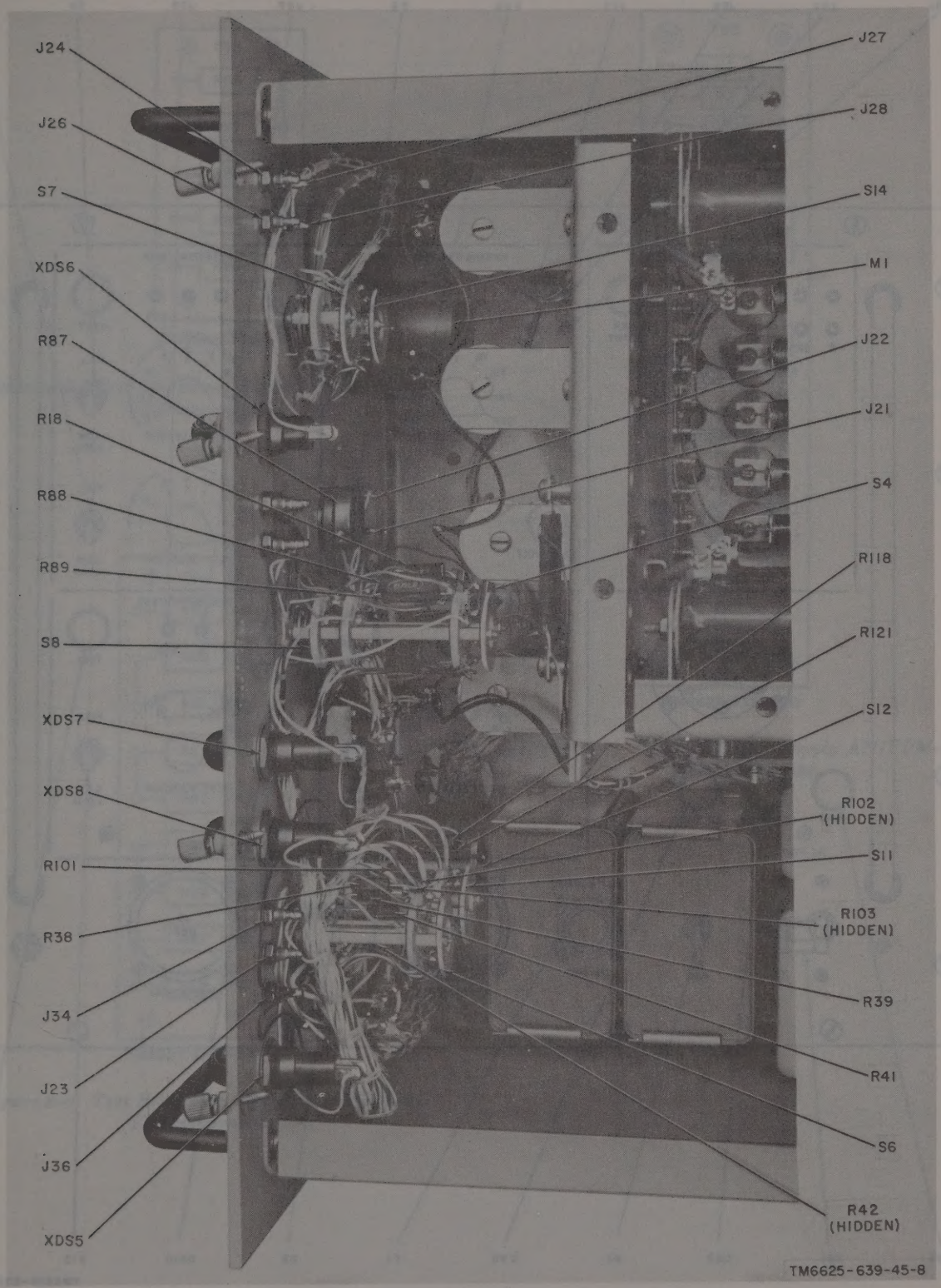


Figure 2-3. Test Set, Power Supply AN/FPM-26, front panel rear view.

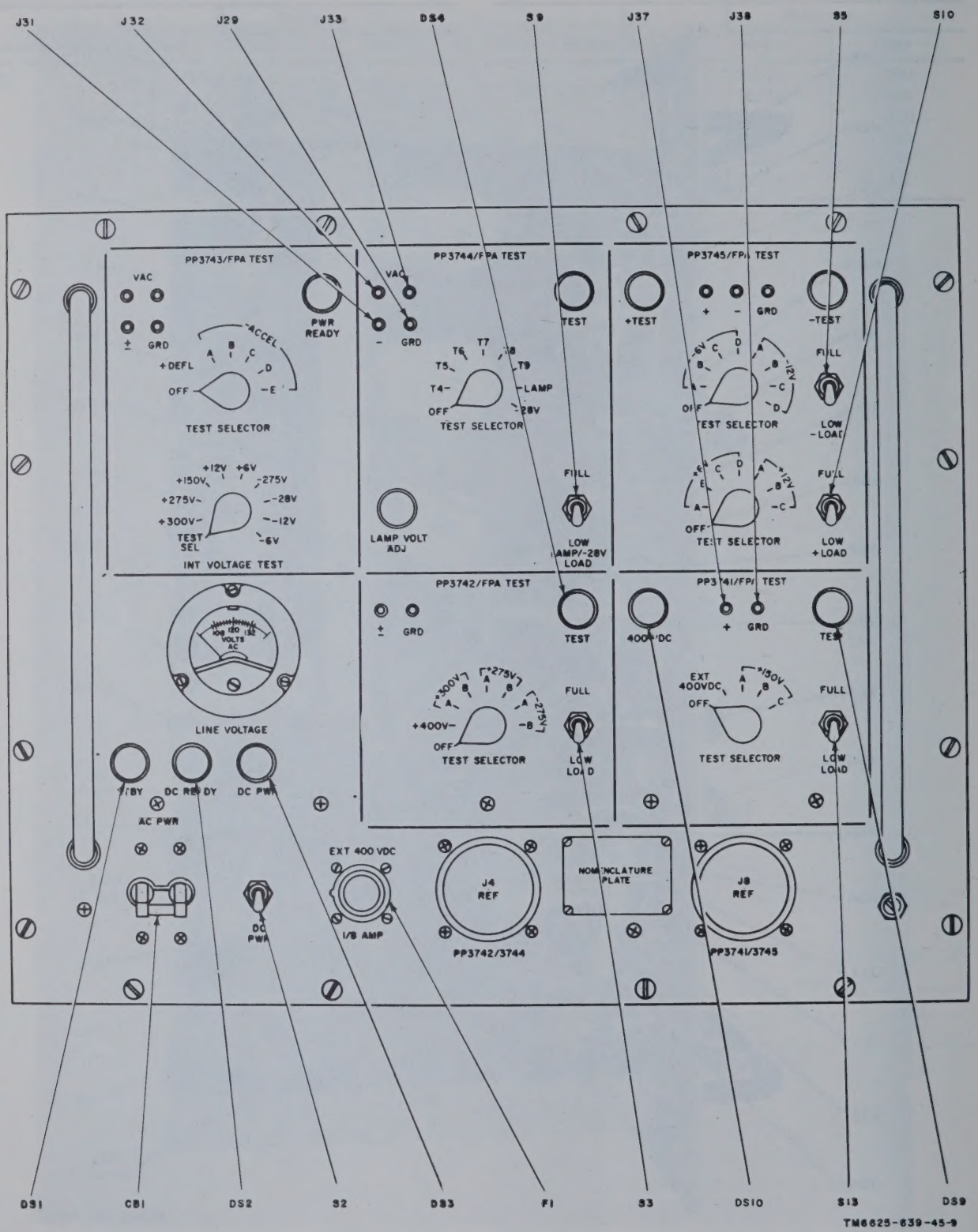


Figure 2-4. Test Set, Power Supply AN/FPM-26, front panel view.

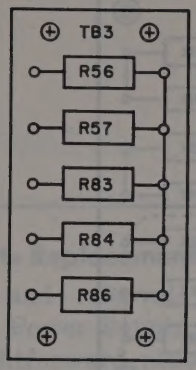


Figure 2–5. Test Set, Power Supply AN/FPM–26, TB3 components.

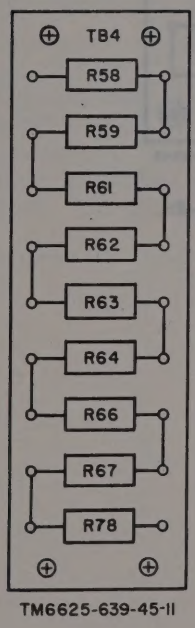


Figure 2–6. Test Set, Power Supply AN/FPM–26, TB4 components.

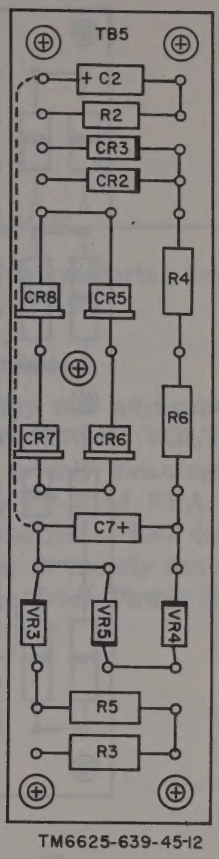


Figure 2–7. Test Set, Power Supply AN/FPM–26, TB5 components.

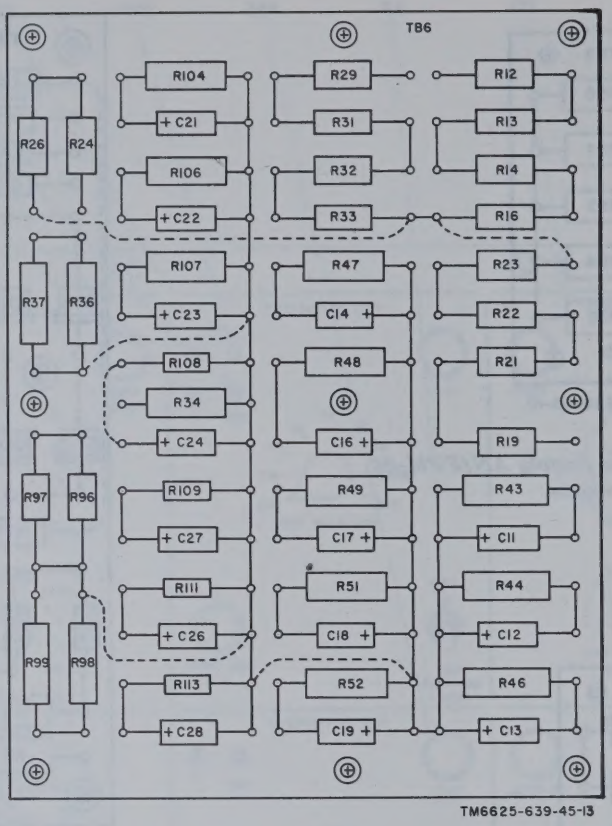


Figure 2-8. Test Set, Power Supply AN/FPM-26, TB6 components.

CHAPTER 3
REPAIRS

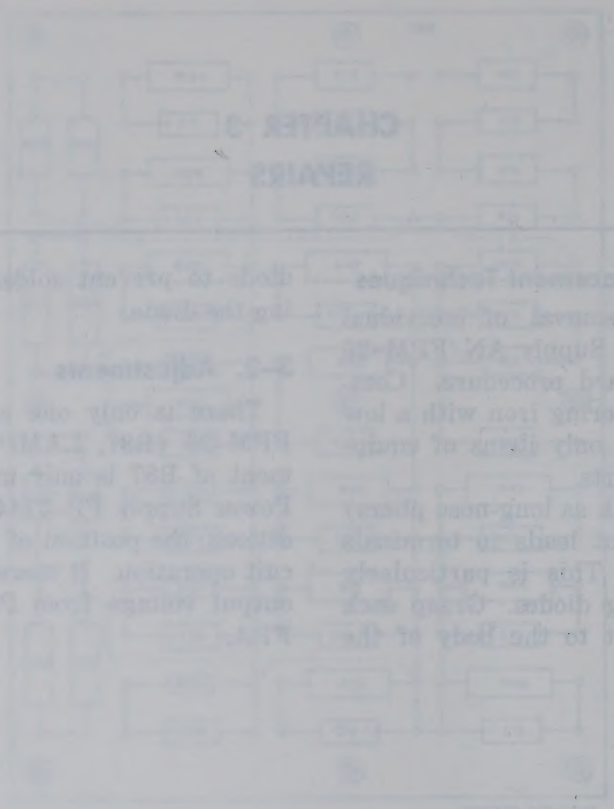
3–1. General Parts Replacement Techniques

a. Replacement and removal of individual parts of Test Set, Power Supply AN/FPM–26 is a simple straightforward procedure. Common handtools and a soldering iron with a low wattage capacity are the only items of equipment needed to replace parts.

b. Use a heat sink (such as long-nose pliers) when soldering component leads to terminals to prevent overheating. This is particularly important when soldering diodes. Grasp each lead with the pliers next to the body of the diode to prevent soldering heat from damaging the diode.

3–2. Adjustments

There is only one adjustment on the AN/FPM–26 (R87, LAMP VOLT ADJ). Adjustment of R87 is only meaningful when testing Power Supply PP–3744/FPA. Under any conditions, the position of R87 does not affect circuit operation. It merely controls the variable output voltage from Power Supply PP–3744/FPA.



CHAPTER 4
GENERAL SUPPORT MAINTENANCE PROCEDURES

4–1. General

a. Testing procedures are prepared for use by maintenance shops responsible for general support maintenance to determine the acceptability of repaired equipment. These procedures set forth specific requirements that repaired equipment *must* meet before it is returned to the using organization. A summary of the performance standards is given in paragraph 4–7.

b. Comply with the instructions preceding each chart before proceeding to the chart. Perform each step in sequence. Do not vary the sequence. For each step, perform all of the action required in the *Test equipment control settings* and *Equipment under test control settings* columns; then perform each specific test procedures and verify it against its performance standard.

4–2. Test Equipment Required

All test equipment, tools, materials, and other equipment required to perform the procedure given in this chapter are listed in the following chart.

Nomenclature	Federal stock No.	Technical manual
Cable Assembly Kit MK–753/FPA	5995–903–1914	TM 11–5995–204–15
Multimeter ME–26B/U	6625–646–9409	TM 11–6625–200–12
Power Supply PP–3941/G	6130–985–8143	TM 11–6130–242–15
Tool Kit, Electronic Equipment TK–100/G	5180–605–0079	SB 11–549
Transformer, Power, Voltage Regulating TF–476/FPA.	5950–999–9765	

4–3. Physical Tests and Inspections

a. Test Equipment and Materials. None required.

b. Test Connections and Conditions.

(1) None required.

(2) Remove AN/FPM–26 chassis from its case.

c. Procedure.

Step No.	Control settings: Test equipment	Control settings: Equipment under test	Test procedure	Performance standard
1	None	Controls may be in any position.	*a.* Inspect case and chassis for damage, missing parts, and condition of paint. *Note:* Touchup painting is recommended in place of refinishing whenever practical. Screwheads, binding posts, receptacles, and other plated parts will not be painted or polished with abrasives.	*a.* No damage evident or parts missing. Painted external surface should not show bare metal. Panel lettering should be legible.
			b. Inspect all controls for looseness or missing screws, bolts, and nuts.	*b.* Screws, bolts, and nuts will be tight; none missing.
			c. Inspect all connectors, test jacks, fuse and lampholders, control, TEST SELECTOR and LOAD switches, and the meter for looseness, damage, or missing parts. *Note:* Connectors and test jacks are also located at the rear and underside of the chassis.	*c.* No loose or damaged parts. No missing parts.
2	None	Controls may be in any position.	*a.* Rotate or operate all panel controls, TEST SELECTOR and LOAD switches, and LAMP VOLT ADJ throughout their limits of travel.	*a.* Controls and switches rotate or operate freely without binding or excessive looseness.
			b. Inspect all rotary switch dial stops for damage or binding and proper operation.	*b.* All stops operate properly.

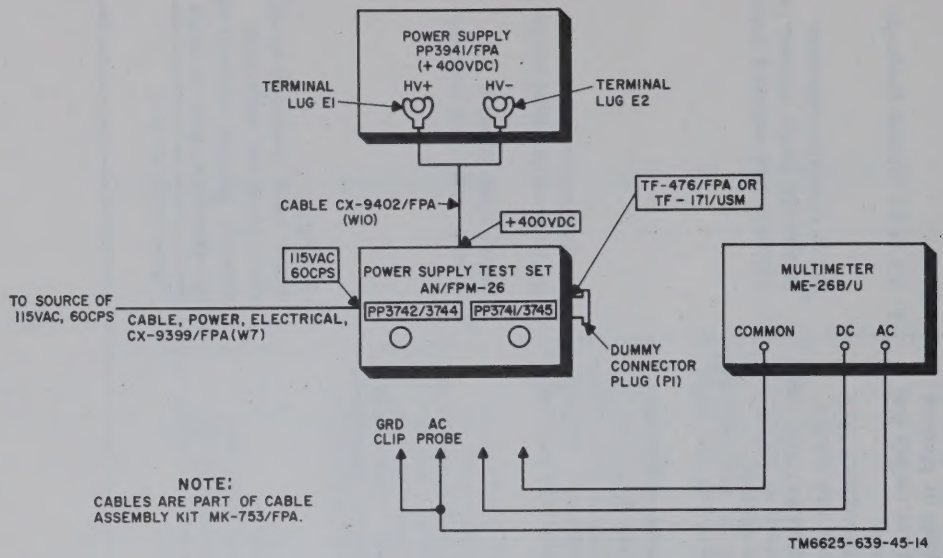


Figure 4.1. Input control and 400-volt tests, connection diagram.

	VDC	Be sure the 400 VDC lamp indicator still lights.	
c. RANGE: 1000 V	----------	*c.* Connect the common lead of ME–26B/U to the GRD test jack, and the DC lead to + test jack. Observe the meter reading.	*c.* Meter must indicate +400 volts dc.
----------	*d.* Rotate TEST SELECTOR successively to the +150V, A, B, and C positions.	*d.* Observe that 400 VDC lamp indicator lights for each position.	*d.* The 400 VDC lamp indicator must light for each +150V position.
----------	*e.* DC PWR switch: off.	*e.* Pull the AN/FPM–26 chassis part way out of its case. Observe that interlock switch (S1) is released, STBY and DC READY indicator lamps go out, LINE VOLTAGE meter reads zero, and blower motor stops running.	*e.* STBY and DC READY indicator lamps must go out. LINE VOLTAGE meter reads zero, and blower motor stops running.
----------	----------	*f.* Pull out interlock plunger and be sure STBY indicator lamp lights, LINE VOLTAGE meter reads line voltage, and blower motor starts running.	*f.* STBY indicator lamp must light, LINE VOLTAGE meter reads line voltage, and blower motor starts running.
----------	----------	*g.* Push the AN/FPM–26 chassis back into its original position.	*g.* STBY indicator lamp must light.
h. Turn off the PP–3941/G.	*h.* AC PWR and TEST SELECTOR: OFF.		

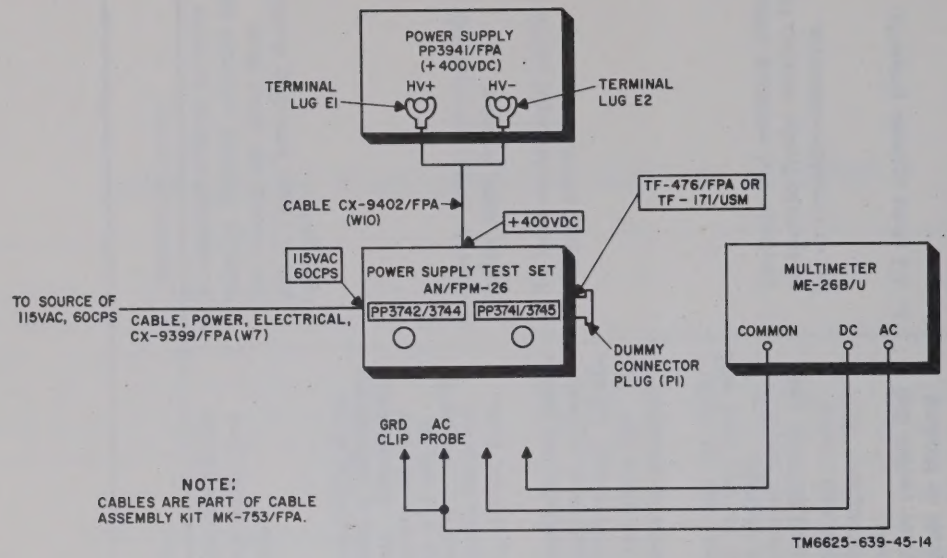


Figure 4.1. Input control and 400-volt tests, connection diagram.

4–4. Power Input Control and +400–Volt Dc Check

a. Test Equipment.

(1) Cable Assembly Kit MK–753/FPA.
(2) Power Supply PP–3941/G.
(3) Multimeter ME–26B/U.

b. Test Connections and Conditions. Connect the equipment as shown in figure 4–1. Turn on Power Supply PP–3941/G and Multimeter ME–26B/U.

c. Procedure.

Step No.	Control settings: Test equipment	Control settings: Equipment under test	Test procedure	Performance standard
1	*ME–26B/U* *a.* FUNCTION: AC *b.* RANGE: 300V	AN/FPM–26 control panel: AC PWR: ON DC PWR: ON	*a.* Observe that STBY indicator lamp lights, blower motor starts, and that LINE VOLTAGE meter indicates presence of voltage.	*a.* STBY indicator lamp must light. Blower motor runs and LINE VOLTAGE meter reads 115 volts ac.
			b. Connect AC GRD CLIP and the AC PROBE of ME–26B/U to pins P and R of connector jacks J8 (PP–3741/3745) and J4 (PP–3742/3744), successively.	*b.* Meter must indicate 115 volts ac.
			c. Observe that DC READY indicator lamp lights after 1-minute time delay.	*c.* DC READY indicator lamp must light after an approximate 1-minute time delay.
			d. Observe that DC PWR indicator lamp lights.	*d.* DC PWR indicator lamp must light.
			e. Connect AC GRD CLIP and the AC PROBE of ME–26B/U to pins T and S of connector jacks J8 (PP–3741/3745) and J4 (PP–3742/3744), successively.	*e.* Meter must indicate 115 volts ac.
2	*PP–3941/G* *a.* Set the output voltage to 400 VDC. *ME–26B/U* *b.* FUNCTION: +	*a.* Leave control in positions last indicated in step 1. *b.* PP–3741/FPA TEST area of control panel: TEST SELECTOR: EXT 400 VDC	*a.* None. *b.* Observe that 400 VDC lamp indicator lights. Interchange the 400 VDC and TEST neon bulbs. Be sure the 400 VDC lamp indicator still lights.	*a.* None. *b.* Both neon bulbs must light.
	c. RANGE: 1000 V	---	*c.* Connect the common lead of ME–26B/U to the GRD test jack, and the DC lead to + test jack. Observe the meter reading.	*c.* Meter must indicate +400 volts dc.
	---	*d.* Rotate TEST SELECTOR successively to the +150V, A, B, and C positions.	*d.* Observe that 400 VDC lamp indicator lights for each position.	*d.* The 400 VDC lamp indicator must light for each +150V position.
	---	*e.* DC PWR switch: off.	*e.* Pull the AN/FPM–26 chassis part way out of its case. Observe that interlock switch (S1) is released, STBY and DC READY indicator lamps go out, LINE VOLTAGE meter reads zero, and blower motor stops running.	*e.* STBY and DC READY indicator lamps must go out. LINE VOLTAGE meter reads zero, and blower motor stops running.
	---	---	*f.* Pull out interlock plunger and be sure STBY indicator lamp lights, LINE VOLTAGE meter reads line voltage, and blower motor starts running.	*f.* STBY indicator lamp must light, LINE VOLTAGE meter reads line voltage, and blower motor starts running.
	---	---	*g.* Push the AN/FPM–26 chassis back into its original position.	*g.* STBY indicator lamp must light.
	h. Turn off the PP–3941/G.	*h.* AC PWR and TEST SELECTOR: OFF.		

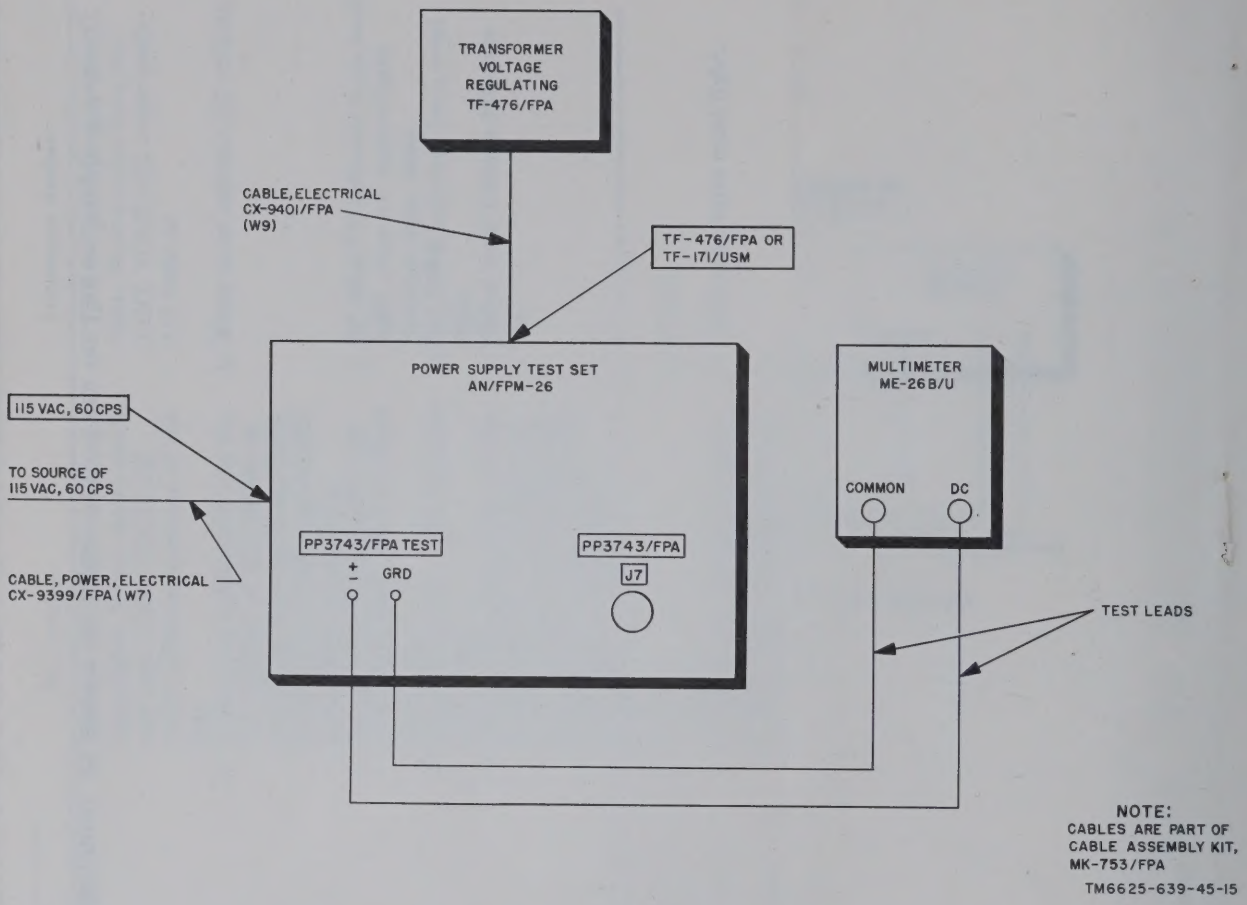


Figure 4-2. Dc output voltage checks, connection diagram.

5	*a.* FUNCTION: + *b.* RANGE: 10 V	INT VOLTAGE TEST: +6 V	Use the procedure in step 1, except that the measurement at jack J7 is taken at pin J.	Meter must indicate more than +6 volts dc.
6	*a.* FUNCTION: – *b.* RANGE: 1000 V	INT VOLTAGE TEST: –275 V	Use the procedure in step 1, except that the measurement at jack J7 is taken at pin F.	Meter must indicate more than –275 volts dc.
7	*a.* FUNCTION: – *b.* RANGE: 100 V	INT VOLTAGE TEST: –28 V	Use the procedure in step 1, except that the measurement at jack J7 is taken at pin d.	Meter must indicate more than –28 volts dc.
8	*a.* FUNCTION: – *b.* RANGE: 30 V	INT VOLTAGE TEST: –12 V	Use the procedure in step 1, except that the measurement at jack J7 is taken at pin b.	Meter must indicate more than –12 volts dc.
9	*a.* FUNCTION: – *b.* RANGE: 10 V	INT VOLTAGE TEST: –6 V	Use the procedure in step 1, except that the measurement at jack J7 is taken at pin K.	Meter must indicate more than –6 volts dc.
10	*a.* FUNCTION: – *b.* RANGE: 100 V	None.	With the ME–26B/U test leads, measure –26 volts dc between pins c and I (GRD) of connector jack J7. Connect the COMMON lead to pin I.	Meter must indicate more than –26 volts dc.
11	None.	AC PWR and DC PWR: OFF		

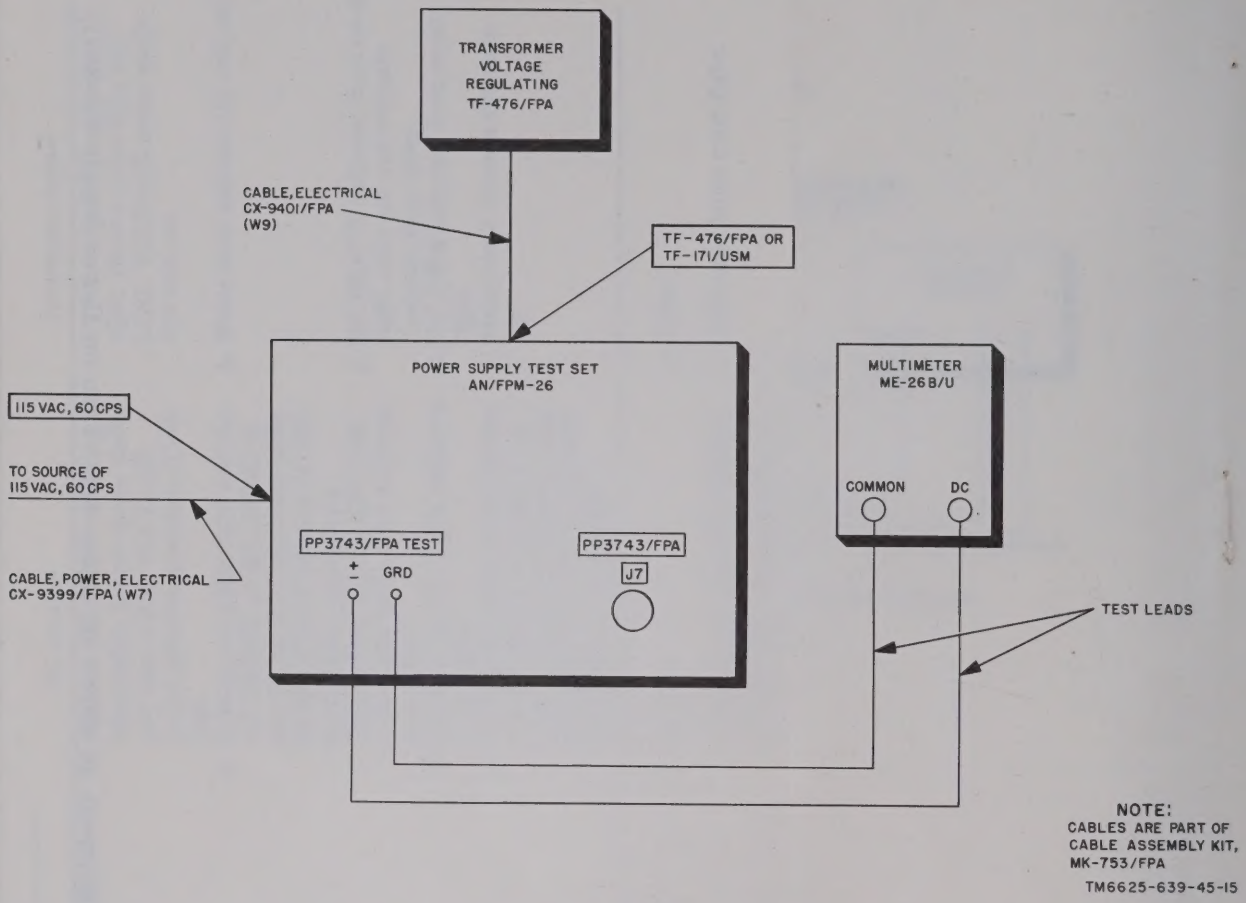


Figure 4-2. Dc output voltage checks, connection diagram.

4–5. Dc Power Supply Voltage Checks (No Load Conditions)

a. Test Equipment.

(1) Cable Assembly Kit MK–753/FPA.

(2) Transformer, Power, Voltage Regulating TF–476/FPA.

(3) Multimeter ME–26B/U.

b. Test Connections and Conditions. Connect the equipment as shown in figure 4–2. Also connect a jumper wire between pins C and D of connector J7. Turn on Multimeter ME–26B/U.

c. Procedure.

Step No.	Control settings		Test procedure	Performance standard
	Test equipment	Equipment under test		
1	*ME–26B/U* *a.* FUNCTION: + *b.* RANGE: 1000 V	AN/FPM–26 control panel: *a.* AC PWR: ON *b.* DC PWR: ON *c.* INT VOLTAGE TEST of PP–3743/FPA TEST area: +300	With ME–26B/U test leads, measure the voltage between the ± and GRD test jacks of PP–3743/FPA TEST area and also between connector jack J7, pin E, and ground. Connect the COMMON lead to GRD.	Meter must indicate more than +300 volts dc.
2	Leave controls in positions indicated in step 1.	INT VOLTAGE TEST of PP–3743/FPA TEST area: +275 V.	Use the procedure in step 1, except that the measurement at jack J7 is taken from pin G.	Meter must indicate more than +275 volts dc.
3	*a.* FUNCTION: + *b.* RANGE: 300 V	INT VOLTAGE TEST: +150 V	Use the procedure in step 1, except that the measurement at jack J7 is taken from pin H.	Meter must indicate more than +150 volts dc.
4	*a.* FUNCTION: + *b.* RANGE: 30 V	INT VOLTAGE TEST: +12 V	Use the procedure in step 1, except that the measurement at jack J7 is taken at pin f.	Meter must indicate more than +12 volts dc.
5	*a.* FUNCTION: + *b.* RANGE: 10 V	INT VOLTAGE TEST: +6 V	Use the procedure in step 1, except that the measurement at jack J7 is taken at pin J.	Meter must indicate more than +6 volts dc.
6	*a.* FUNCTION: – *b.* RANGE: 1000 V	INT VOLTAGE TEST: –275 V	Use the procedure in step 1, except that the measurement at jack J7 is taken at pin F.	Meter must indicate more than –275 volts dc.
7	*a.* FUNCTION: – *b.* RANGE: 100 V	INT VOLTAGE TEST: –28 V	Use the procedure in step 1, except that the measurement at jack J7 is taken at pin d.	Meter must indicate more than –28 volts dc.
8	*a.* FUNCTION: – *b.* RANGE: 30 V	INT VOLTAGE TEST: –12 V	Use the procedure in step 1, except that the measurement at jack J7 is taken at pin b.	Meter must indicate more than –12 volts dc.
9	*a.* FUNCTION: – *b.* RANGE: 10 V	INT VOLTAGE TEST: –6 V	Use the procedure in step 1, except that the measurement at jack J7 is taken at pin K.	Meter must indicate more than –6 volts dc.
10	*a.* FUNCTION: – *b.* RANGE: 100 V	None.	With the ME–26B/U test leads, measure –26 volts dc between pins c and I (GRD) of connector jack J7. Connect the COMMON lead to pin I.	Meter must indicate more than –26 volts dc.
11	None.	AC PWR and DC PWR: OFF		

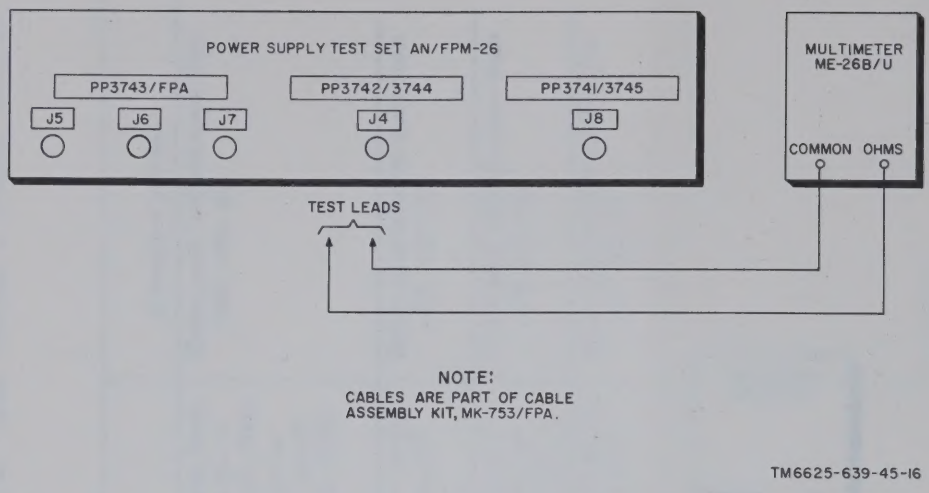


Figure 4.3. Dc switching circuits resistance checks, connection diagram.

4–6. Dc Switching Circuit Resistance Checks

a. Test Equipment. Multimeter ME–26B/U.

b. Test Connections and Conditions. Set up the equipment as shown in figure 4–3. Turn on Multimeter ME–26B/U.

c. Procedure.

Step No.	Control settings: Test equipment	Control settings: Equipment under test	Test procedure	Performance standard
1		*PP–3741/FPA TEST circuits.*		
a.	*ME–26B/U:*	*PP–3741/FPA TEST area of control panel:*		
	(1) FUNCTION: OHMS	(1) LOAD: LOW	(1) Remove TEST and 400VDC bulbs from lamp sockets. Check resistance from side of socket to the GRD test jack.	(1) Meter reads zero.
	(2) RANGE: RXIK	(2) TEST SELECTOR: +150V A	(2) Measure resistance from center contact of XSD9 to + test jack.	(2) Meter reads 30.6 ±5K ohms.
	(3) RANGE: RX10K	(3) TEST SELECTOR: EXT 400VDC	(3) Measure the resistance from the center contact of XSD10 to + test jack. (4) Replace bulbs.	(3) Meter reads 109 ±15K.
b.	Leave controls in positions indicated in step 1*a*.	(1) LOAD: LOW	(1) None.	(1) None.
		(2) TEST SELECTOR:	(2) Check as follows to see that the specified resistance given below is obtained between the connector pins and test jacks listed for each position of TEST SELECTOR switch:	(2) Meter reads within tolerance given in *Test procedure* column.
			Connector / Test jack / Ohms	
		(*a*) +150V A	(*a*) J8, J / + / 0	
		(*b*) +150V B	(*b*) J8, K / + / 0	
		(*c*) +150V C	(*c*) J8, L / + / 0	
		(*d*) +150V A	(*d*) J8, J / GRD / 1,800 ±300	
		(*e*) +150V B	(*e*) J8, K / GRD / 1,800 ±300	
		(*f*) –150V C	(*f*) J8, L / GRD / 1,800 ±300	
c.	(1) FUNCTION: OHMS	(1) LOAD: FULL	(1) None.	(1) None.
	(2) RANGE: RX 100	(2) TEST SELECTOR:	(2) Check as follows to see that specified resistance given below is obtained between the connector pins and test jacks listed for each position of TEST SELECTOR switch:	(2) Meter reads within tolerance given in *Test procedure* column.
			Connector / Test jack / Ohms	
		(*a*) +150V A	(*a*) J8, J / GRD / 600 ±90	
		(*b*) EXT 400VDC	(*b*) J8, X / TB2–12 / 0	
		(*c*) EXT 400VDC	(*c*) J2, B / K2–C1 / 0	
2		*PP–3742/FPA TEST circuits*		
a.	*ME–26B/U:*	*PP–3742/FPA TEST area of control panel:*		
	(1) FUNCTION: OHMS	(1) LOAD: LOW	(1) Remove TEST bulb from lamp socket; check resistance from side of socket to the GRD test jack.	(1) Meter reads zero.
	(2) RANGE: RX10K	(2) TEST SELECTOR: +400V	(2) Check for continuity from center contact of XDS4 to pin X of jack J4. (3) Replace bulb.	(2) Meter reads 109 ±15K ohms.
b.	(1) FUNCTION: OHMS	(1) LOAD: LOW	(1) None.	(1) None.
	(2) RANGE:	(2) TEST SELECTOR:	(2) Check as follows to see that the specified resistance given below is obtained between the jacks listed for each position of TEST SELECTOR switch:	(2) Meter reads within tolerance given in *Test procedure* column.
			Connector / Test jack / Ohms	
	(*a*) RXIK	(*a*) +300V A	(*a*) J4, h / ± / 0	
	(*b*) RXIK	(*b*) +300V A	(*b*) J4. h / GRD / 9.1 ±1.4K	
	(*c*) RX1K	(*c*) +300V B	(*c*) J4, j / GRD / 9.1 ±1.4K	
	(*d*) RX1K	(*d*) +275V A	(*d*) J4, k / GRD / 27.2 ±4.1K	
	(*e*) RX1K	(*e*) +275V B	(*e*) J4, g / GRD / 27.2 ±4.1K	
	(*f*) RX10K	(*f*) –275V A	(*f*) J4, e / GRD / 57.0 ±8.5K	
	(*g*) RX1K	(*g*) –275V B	(*g*) J4, f / GRD / 15.0 ±2.5K	
c.	(1) FUNCTION: OHMS	(1) LOAD: FULL	(1) None.	(1) None.
	(2) RANGE: RX1K	(2) TEST SELECTOR	(2) Check as follows to be sure that specified resistance given below is obtained between the jacks listed for each position of TEST SELECTOR switch:	(2) Meter reads within tolerance as given in *Test procedure* column.
			Connector / Test jack / Ohms	
		(*a*) +300V A	(*a*) J4, h / GRD / 2.9 ±0.5K	
		(*b*) +300V B	(*b*) J4, k / GRD / 2.9 ±0.5K	
		(*c*) +275V A	(*c*) J4, k / GRD / 9.0 ±1.5K	
		(*d*) +275V B	(*d*) K4, g / GRD / 9.0 ±1.5K	
		(*e*) –275V A	(*e*) J4, e / GRD / 20.0 ±3.0K	
		(*f*) –275V B	(*f*) J4, f / GRD / 5.0 ±0.8K	
3		*PP–3743/FPA TEST circuits*		
a.	*ME–26B/U:*	*PP–3743/FPA TEST area of control panel:*		
	(1) FUNCTION: OHMS	(1) INT VOLTAGE TEST: TEST SEL	(1) None.	(1) None.
	(2) RANGE:	(2) TEST SELECTOR:	(2) Check as follows to be sure that specified resistance given below is obtained between the connector pins and test jacks listed for each position of TEST SELECTOR switch:	(2) Meter reads within the tolerance given in *Test procedure* column.
			Connector / Test jack / Ohms	
	(*a*) RX1K RX100K RX10K	(*a*) +DEFL	(*a*) J6, D / GRD / 5.2 ±0.8K J6, D / ± / 900 ±135K ± / GRD / 100 ±15K	
	(*b*) RX1M RX1M RX10K	(*b*) –ACCEL A	(*b*) J5, A / GRD / 16 ±2.5M J5, A / ± / 15.8 ±2.3M ± / GRD / 160 ±24K	
	(*c*) RX1M RX1M RX10K	(*c*) –ACCEL B	(*c*) J5, C / GRD / 16 ±2.5M J5, C / ± / 15.8 ±2.3M ± / GRD / 160 ±24K	
	(*d*) RX1M RX1M RX10K	(*d*) –ACCEL C	(*d*) J5 A / ± / 16 ±2.5M J5, A / ± / 15.8 ±2.3M ± / GRD / 160 ±24K	
	(*e*) RX1M RX1M RX10K	(*e*) –ACCEL D	(*e*) J6, B / GRD / 16 ±2.5M J6, B / ± / 15.8 ±2.3M ± / GRD / 160 ±24K	
	(*f*) RX1M RX1M RX10K	(*f*) –ACCEL E	(*f*) J6, C / GRD / 16 ±2.5M J6, C / ± / 15.8 ±2.3M ± / GRD / 160 ±24K	
4		*PP–3744/FPA TEST circuits*		
a.	*ME–26B/U:*	*PP–3744/FPA TEST area of control panel:*		
	(1) FUNCTION: OHMS	(1) LAMP/–28V LOAD: LOW	(1) None	(1) None.
	(2) RANGE: RX1	(2) TEST SELECTOR: OFF	(2) Measure the resistance between the VAC test jacks.	(2) Meter reads 4.3 ohms ±0.6.
	(3) Leave controls in same positions as above.	(3) TEST SELECTOR:	(3) Remove TEST lamp indicator bulb from its socket. Check as follows the resistance between the side of the lamp socket and the connector pins listed for each position of the TEST SELECTOR switch:	(3) Meter reads zero for each TEST SELECTOR position.
			Connector / Ohms	
		T4	J4, B / 0	
		T5	J4, D / 0	
		T6	J4, F / 0	
		T7	J4, H / 0	
		T8	J4, J / 0	
		T9	J4, L / 0	
	(4) Leave controls in same position as above.	(4) TEST SELECTOR: T4 through T9.	(4) Check continuity from the side of socket to the left VAC test jack (J32).	(4) Meter reads zero.
	(5) Leave controls in same position as above.	(5) TEST SELECTOR:	(5) Check as follows the continuity between the center of the lamp socket and the connector pins listed for each position of the TEST SELECTOR switch:	(5) Meter reads zero for each TEST SELECTOR position.
			Connector / Ohms	

	(*a*) RX1K	(*a*) +300V A	(*a*) J4, h	±	0
	(*b*) RX1K	(*b*) +300V A	(*b*) J4, h	GRD	9.1 ±1.4K
	(*c*) RX1K	(*c*) +300V B	(*c*) J4, j	GRD	9.1 ±1.4K
	(*d*) RX1K	(*d*) +275V A	(*d*) J4, k	GRD	27.2 ±4.1K
	(*e*) RX1K	(*e*) +275V B	(*e*) J4, g	GRD	27.2 ±4.1K
	(*f*) RX10K	(*f*) −275V A	(*f*) J4, e	GRD	57.0 ±8.5K
	(*g*) RX1K	(*g*) −275V B	(*g*) J4, f	GRD	15.0 ±2.5K
c.	(1) FUNCTION: OHMS	(1) LOAD: FULL	(1) None.		(1) None.
	(2) RANGE: RX1K	(2) TEST SELECTOR	(2) Check as follows to be sure that specified resistance given below is obtained between the jacks listed for each position of TEST SELECTOR switch:		(2) Meter reads within tolerance as given in *Test procedure* column.

Connector	Test jack	Ohms
(*a*) J4, h	GRD	2.9 ±0.5K
(*b*) J4, k	GRD	2.9 ±0.5K
(*c*) J4, k	GRD	9.0 ±1.5K
(*d*) K4, g	GRD	9.0 ±1.5K
(*e*) J4, e	GRD	20.0 ±3.0K
(*f*) J4, f	GRD	5.0 ±0.8K

3	*PP–3743/FPA TEST circuits*				
a.	*ME–26B/U:*	*PP–3743/FPA TEST area of control panel:*			
	(1) FUNCTION: OHMS	(1) INT VOLTAGE TEST: TEST SEL	(1) None.		(1) None.
	(2) RANGE:	(2) TEST SELECTOR:	(2) Check as follows to be sure that specified resistance given below is obtained between the connector pins and test jacks listed for each position of TEST SELECTOR switch:		(2) Meter reads within the tolerance given in *Test procedure* column.
	(*a*) RX1K	(*a*) +DEFL	(*a*) J6, D	GRD	5.2 ±0.8K
	RX100K		J6, D	±	900 ±135K
	RX10K		±	GRD	100 ±15K
	(*b*) RX1M	(*b*) −ACCEL A	(*b*) J5, A	GRD	16 ±2.5M
	RX1M		J5, A	±	15.8 ±2.3M
	RX10K		±	GRD	160 ±24K
	(*c*) RX1M	(*c*) −ACCEL B	(*c*) J5, C	GRD	16 ±2.5M
	RX1M		J5, C	±	15.8 ±2.3M
	RX10K		±	GRD	160 ±24K
	(*d*) RX1M	(*d*) −ACCEL C	(*d*) J5 A	±	16 ±2.5M
	RX1M		J5, A	±	15.8 ±2.3M
	RX10K		±	GRD	160 ±24K
	(*e*) RX1M	(*e*) −ACCEL D	(*e*) J6, B	GRD	16 ±2.5M
	RX1M		J6, B	±	15.8 ±2.3M
	RX10K		±	GRD	160 ±24K
	(*f*) RX1M	(*f*) −ACCEL E	(*f*) J6, C	GRD	16 ±2.5M
	RX1M		J6, C	±	15.8 ±2.3M
	RX10K		±	GRD	160 ±24K

4	*PP–3744/FPA TEST circuits*			
a.	*ME–26B/U:*	*PP–3744/FPA TEST area of control panel:*		
	(1) FUNCTION: OHMS	(1) LAMP/–28V LOAD: LOW	(1) None	(1) None.
	(2) RANGE: RX1	(2) TEST SELECTOR: OFF	(2) Measure the resistance between the VAC test jacks.	(2) Meter reads 4.3 ohms ±0.6.
	(3) Leave controls in same positions as above.	(3) TEST SELECTOR:	(3) Remove TEST lamp indicator bulb from its socket. Check as follows the resistance between the side of the lamp socket and the connector pins listed for each position of the TEST SELECTOR switch:	(3) Meter reads zero for each TEST SELECTOR position.

	Connector	Ohms
T4	J4, B	0
T5	J4, D	0
T6	J4, F	0
T7	J4, H	0
T8	J4, J	0
T9	J4, L	0

(4) Leave controls in same position as above.	(4) TEST SELECTOR: T4 through T9.	(4) Check continuity from the side of socket to the left VAC test jack (J32).	(4) Meter reads zero.
(5) Leave controls in same position as above.	(5) TEST SELECTOR:	(5) Check as follows the continuity between the center of the lamp socket and the connector pins listed for each position of the TEST SELECTOR switch:	(5) Meter reads zero for each TEST SELECTOR position.

	Connector	Ohms
T4	J4, A	0
T5	J4, C	0
T6	J4, E	0
T7	J4, G	0
T8	J4, I	0
T9	J4, K	0

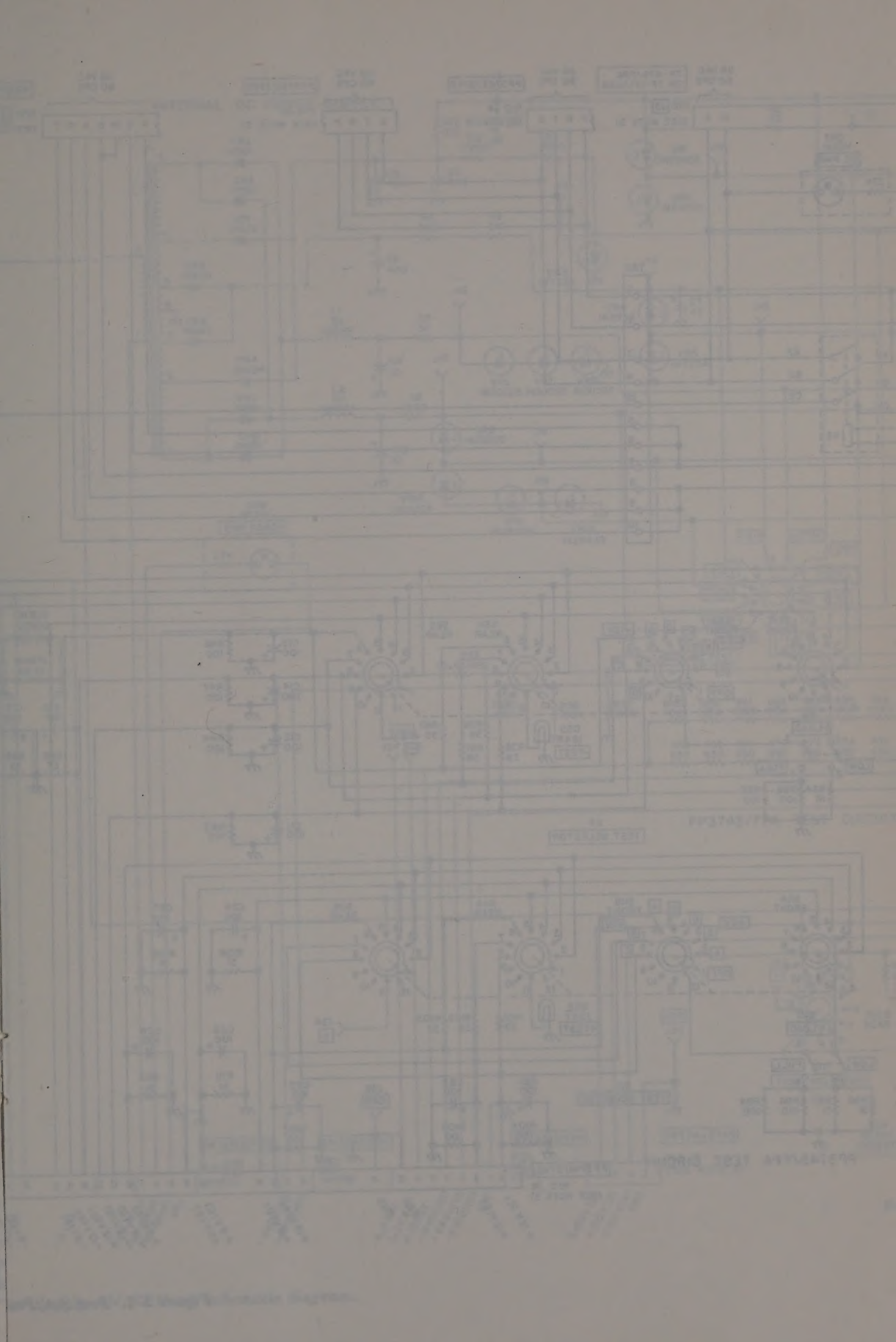
(6) Leave controls in same position as above.	(6) TEST SELECTOR: T4 through T9.	(6) Check continuity from the center of the lamp socket contact to the right VAC test jack (J33).	(6) Meter reads zero.
b. (1) RANGE: X100	(1) LAMP VOLT ADJ: Fully clockwise.	(1) Measure the resistance between pins b and c of connector jack PP–3742/3744 (J4).	(1) Meter reads less than 100 ohms.
(2) RANGE: RX10K	(2) LAMP VOLT ADJ: fully counterclockwise.	(2) Same as (1) above.	(2) Meter must indicate 50 ±7.5K ohms.
c. (1) RANGE: RX10	(1) TEST SELECTOR: LAMP	(1) Measure the resistance between the center contact of XDS7 and J31(–).	(1) Meter reads 150 ohms ±22.
(2) RANGE: RX1	(2) TEST SELECTOR: LAMP	(2) Measure the resistance between J4, pin a, and J29 (GRD).	(2) Meter must read 16 ohms ±2.5.
d. (1) RANGE: RX10	(1) TEST SELECTOR: –28V	(1) Measure the resistance between the center contact of XDS7 and J31 (–).	(1) Meter reads 150 ohms ±22.
(2) RANGE: RX1	(2) TEST SELECTOR: –28V	(2) Measure the resistance between J4, pin d, and J29 (GRD).	(2) Meter reads 24 ohms ±2.5.

5	*PP–3745/FPA TEST circuits*			
a.	*ME–26B/U*	*PP–3745/FPA TEST area of front panel:*	None.	None.
	FUNCTION: OHMS	+ LOAD and – LOAD: LOW	Remove the + TEST and –TEST lamp indicator bulbs from their lamp sockets. Check continuity from side of lamp socket to ground.	Meter reads zero.
b.	*Note:* "+T" and "–T" are used to designate the center socket contact for the +TEST (J34) and –TEST (J23) lamp sockets.			
	(1) FUNCTION: OHMS	(1) + LOAD AND – LOAD: FULL	(1) None.	(1) None.
	(2) RANGE:	(2) TEST SELECTOR switches:	(2) Check as follows to be sure the specified resistance given below is obtained between the jacks listed for the positions of both TEST SELECTOR switches:	(2) Meter reads within tolerance given in *Test procedure* column.

		Connector	Test jack	Ohms
(*a*) RX1	(*a*) +6V A	(*a*) J8, E	GRD	17 ±2.5
		J8, E	+	0
		J8, E	+T	0
(*b*) RX1	(*b*) +6V B	(*b*) J8, F	GRD	17 ±2.5
		J8, F	+	0
		J8, F	+T	0
(*c*) RX1	(*c*) +6V C	(*c*) J8, G	GRD	17 ±2.5
		J8, G	+	0
		J8, G	+T	0
(*d*) RX1	(*d*) +6V D	(*d*) J8, H	GRD	17 ±2.5
		J8, H	+	0
		J8, H	+T	0
(*e*) RX10	(*e*) +12V A	(*e*) J8, h	GRD	33 ±5
		J8, h	+	0
		J8, h	+T	39 ±6
(*f*) RX10	(*f*) +12V B	(*f*) J8, j	GRD	33 ±5
		J8, j	+	0
		J8, j	+T	39 ±6
(*g*) RX10	(*g*) +12V C	(*g*) J8, k	GRD	33 ±5
		J8, k	+	0
		J8, k	+T	39 ±6
(*h*) RX1	(*h*) –6V A	(*h*) J8, A	GRD	20 ±3
		J8, A	–	0
		J8, A	–T	0
(*i*) RX1	(*i*) –6V B	(*i*) J8, B	GRD	20 ±3
		J8, B	–	0
		J8, B	–T	0
(*j*) RX1	(*j*) –6V C	(*j*) J8, C	GRD	20 ±3
		J8, C	–	0
		J8, C	–T	0
(*k*) RX1	(*k*) –6V D	(*k*) J8, D	GRD	20 ±3
		J8, D	–	0
		J8, D	–T	0
(*l*) RX10	(*l*) –12V A	(*l*) J8, a	GRD	33 ±5
		J8, a	–	0
		J8, a	–T	39 ±6
(*m*) RX10	(*m*) –12V B	(*m*) J8, b	GRD	33 ±5
		J8, b	–	0
		J8, b	–T	39 ±6
(*n*) RX10	(*n*) –12V C	(*n*) J8, c	GRD	33 ±5
		J8, c	–	0
		J8, c	–T	39 ±6
(*o*) RX10	(*o*) –12V D	(*o*) J8, d	GRD	33 ±5
		J8, d	–	0
		J8, d	–T	39 ±6
		(3) Replace both TEST lamps in their sockets.		(3) None.

4-7. Test Data Summary

Because the performance standards of paragraph 4-5 include voltage measurements taken under no-load conditions, no meaningful tolerances can be provided. The voltage values specified in paragraph 4-5 indicate that the power supply source within the AN/FPM-26 is capable of providing no-load voltages somewhat in excess of voltages they will provide when loaded. Observance of ac and dc voltages at the specified terminals merely indicates that their circuitry is functioning properly. If the voltages obtained under no-load conditions (para 4-5) are considerably less than those listed, the AN/FPM-26 under test should be sent to depot maintenance for further testing under loaded conditions.



4-7. Test Data Summary

Because the performance standards of paragraph 4-5 include voltage measurements taken under no-load conditions, no meaningful tolerances can be provided. The voltage values specified in paragraph 4-5 indicate that the power supply source within the AN/FPM-26 is capable of providing no-load voltages somewhat in excess of voltages they will provide when loaded. Observance of ac and dc voltages at the specified terminals merely indicates that their circuitry is functioning properly. If the voltages obtained under no-load conditions (para 4-5) are considerably less than those listed, the AN/FPM-26 under test should be sent to depot maintenance for further testing under loaded conditions.

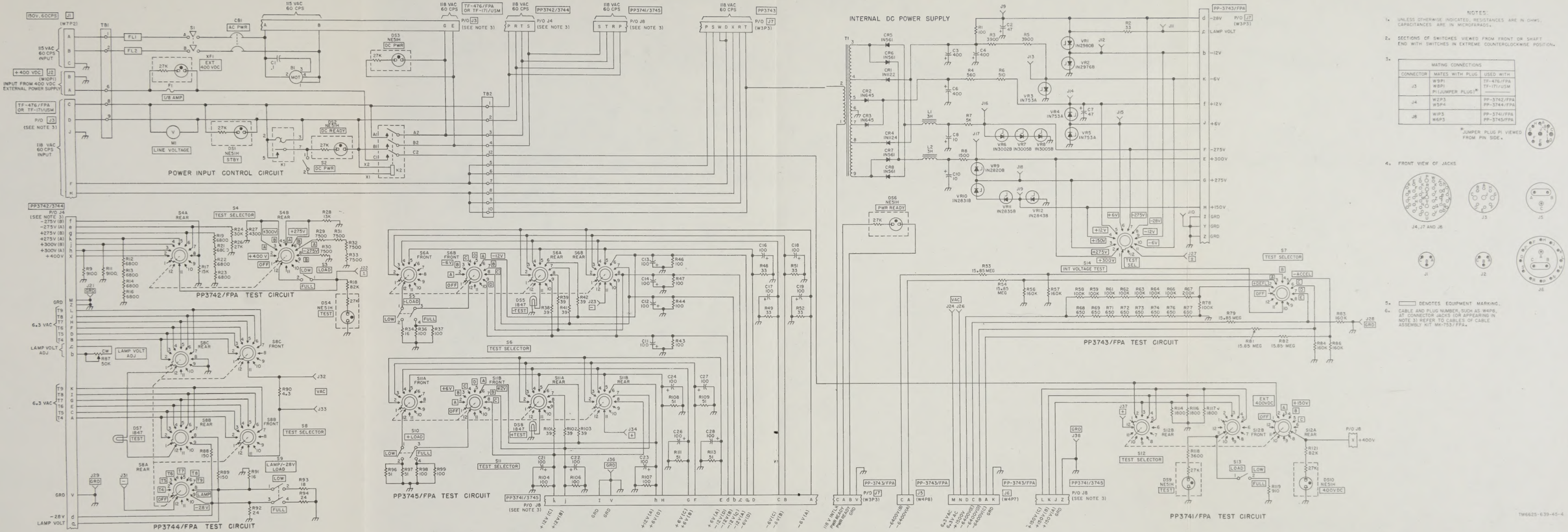
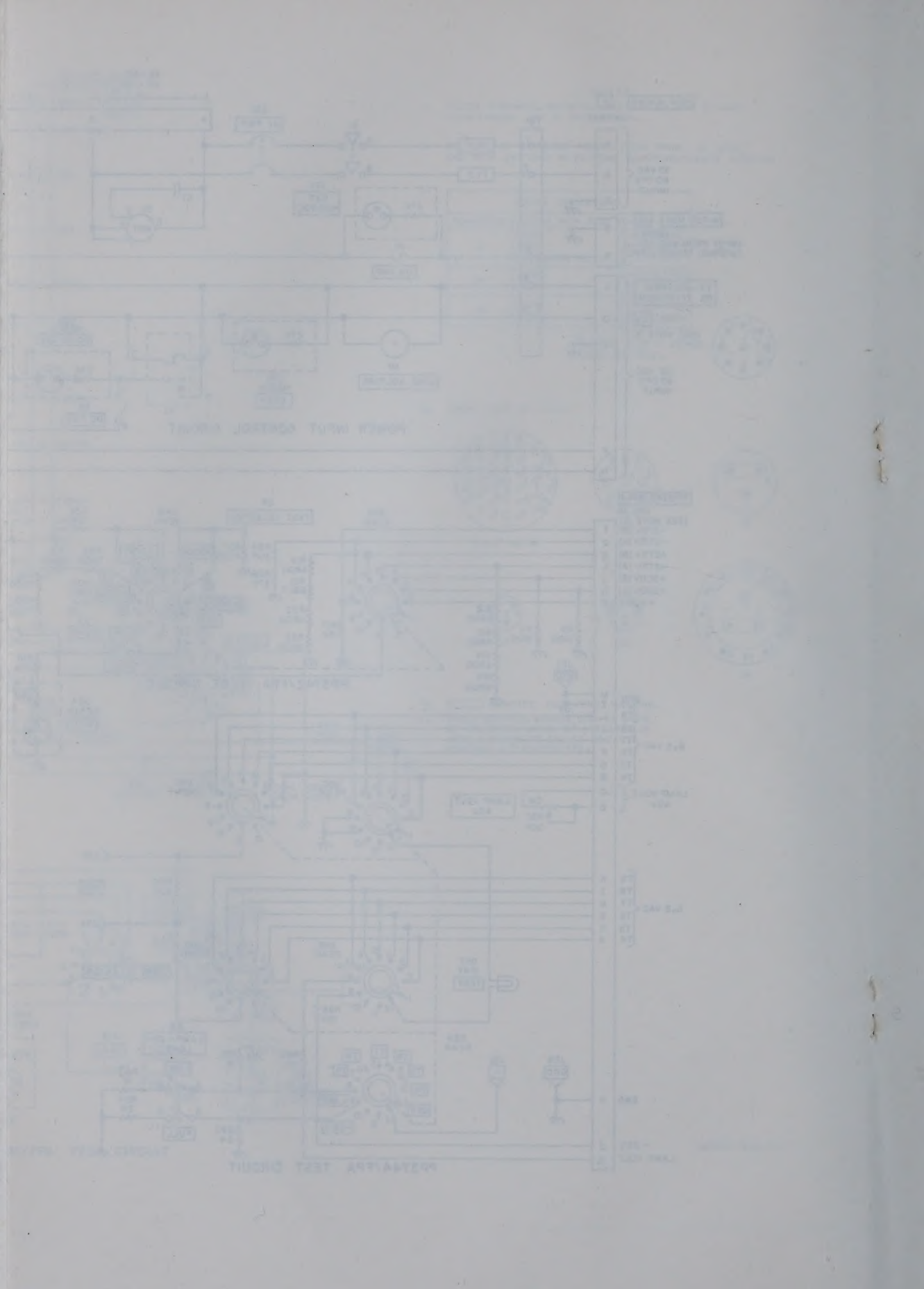


Figure 5-4. Test Set, Power Supply AN/FPM-26, schematic diagram.



CHAPTER 5

DEPOT MAINTENANCE

Section I. GENERAL

5–1. Scope of Depot Maintenance

This chapter contains repair and replacement instructions and test procedures which may be accomplished by depot maintenance personnel. Also covered are test criteria that must be met by rebuilt or repaired equipment before it is returned to DA supply system stocks as new materiel are presented in the test procedures.

5–2. General Parts Replacement Techniques

All parts in the AN/FPM–26 can be reached and replaced easily without any special procedures. Refer to the precautions contained in paragraph 3–1 before removing a part in the AN/FPM–26, noting the position of the part and its leads. Install replacement parts in the same position as the original to avoid undesirable results.

5–3. Test Conditions

To obtain a qualitative indication of the functioning of the AN/FPM–26, test it under loaded conditions. Console Power Supply PP–3743/FPA is used to load the internal dc power supply and to supply the PP–3743/FPA TEST area circuits with high voltages. The PP–3743/FPA power supply should be connected to the AN/FPM–26, as described in the test procedures given in TM 11–6625–639–12, and the procedures given in paragraph 5–6 through 5–10 performed. As an alternate to the above Power Supply PP–3743/FPA procedures, the test fixture described in paragraph 5–10 may be used to load the AN/FPM–26 power supply. For the 6,400 (A, B, C, D, and E) and 1,500 volts dc required to test PP–3743/FPA TEST area circuits (fig. 5–4), Power Supply PP–393-7/FPA and a source of 1,500 volts, 350 milliamperes (ma), respectively, will be used to supply these voltages. The 1,500 volts, 350 ma is used as an alternate source of deflection voltage to check the PP–3743/FPA TEST circuits due to the difference in current ratings between Power Supplies PP–3743/FPA and PP–3937/FPA. The alternate test procedures and necessary fabrication of cables and loads are given in paragraphs 5–12 through 5–18. The power supplies listed in paragraph 5–4 will be used to supply power to the remaining dc switching circuits of the AN/FPM–26 (fig. 5–4).

5–4. Test Equipment Required

Test equipment required to perform the test procedures given in this chapter are listed in the following chart with their Federal stock numbers and applicable publications.

Nomenclature	Federal stock No.	Technical manual
Cable Assembly Kit MK–753/FPA	5995–903–1914	TM 11–5995–204–15
Transformer, Power, Voltage Regulating TF–476/FPA.	5950–999–7965	
Multimeter, ME–26B/U	6625–646–9409	TM 11–6625–200–11
Oscilloscope AN/USM–81	6625–701–4038	TM 11–6625–219–12
Power supply PP–3938/G	6130–985–8138	TM 11–6130–240–15
Power Supply PP–3940/G	6130–985–8136	TM 11–6130–247–15
Power Supply PP–3941/G	6130–985–8143	TM 11–6130–242–15
High Voltage Power Supply PP–3937/FPA	5840–868–8116	TM 11–5840–308–12

Section II. NORMAL TEST PROCEDURES

5-5. Test Setup

Connect the AN/FPM-26 for normal test procedures, using Power Supply PP-3743/FPA, the TF-476/FPA, and cables W3, W4, W7, and W9 of Cable Assembly Kit MK-753/FPA. The above equipment is interconnected as a test setup in accordance with procedures given in TM 11-5840-263-35. This setup is required to perform the test given in paragraphs 5-6 and 5-7. The remaining TEST area circuit test setups are outlined by the procedure for each test.

5-6. Internal Dc Power Supply Tests

a. Output Voltage. Check the 10 power supply outputs of the AN/FPM-26 as follows:

(1) With AN/FPM-26 connected as described in paragraph 5-5, place AC PWR circuit breaker to ON and, after DC READY indicator lamp lights (1-minute time delay), place the DC PWR switch to on. Set INT VOLTAGE TEST and TEST SELECTOR switches to TEST SEL and OFF.

(2) Set all toggle switches on Power Supply PP-3743/FPA panel to OFF and defeat high-voltage interlock switch S6 (rear of chassis) by manually pulling out the plunger.

***Warning:* Be careful when working with the 115-volt ac line and the +150-, +300-, +275-, -275-, +1,500-, and -6,400-volt dc circuit voltages. Serious injury or death may result from contact with these voltages.**

(3) The lights for the PP-3743/FPA panel VOLTAGE TEST meter should be illuminated. The following DC VOLTAGE indicators, also on the PP-3743/FPA panel, should be illuminated.

(*a*) +6 VDC.
(*b*) +12 VDC.
(*c*) -12 VDC.
(*d*) -28 VDC.
(*e*) -6 VDC.
(*f*) LAMP VOLTAGE.
(*g*) +150 VDC.
(*h*) +275 VDC.
(*i*) -275 VDC.
(*j*) +300 VDC.

(4) Connect the ME-26B/U DC and COMMON test leads to the ± and GRD test jacks, respectively, on the PP-3743/FPA TEST area. Set the INT VOLTAGE TEST and the ME-26B/U switches to the positions indicated in the chart below and be sure that the specified voltage reading is observed on the vtvm.

INT VOLTAGE TEST switch position	Vtvm control settings		Vtvm indication (volts)
	FUNCTION	RANGE	
+300	+	1000V	+300 ±15
+275	+	300V	+275 ±14
+150V	+	300V	+150 ±8
+12V	+	30V	+12 ±0.6
+6V	+	10V	+60.5
-275V	-	300V	-275 ±14
-28V	-	30V	-28 ±1.5
-12V	-	30V	-12 ±0.6
-6V	-	10V	-6 ±0.5

b. Ripple Voltage. Check ripple voltage content of the 10 dc voltage outputs of the AN/FPM-26 as follows:

(1) Perform the procedure given in *a*(1), (2), and (3) above.

(2) Monitor the ± test jack of the PP-3743/FPA TEST area with Oscilloscope AN/USM-81.

(3) Set the INT VOLTAGE TEST switch to the positions indicated in the chart below and check to be sure the specified ripple voltage reading is observed on the oscilloscope.

INT VOLTAGE TEST switch position	Ripple voltage (max) (volts peak to peak)
+300V	9.00
+275V	8.25
+150V	4.50
+12V	0.36
+6V	0.18
-275V	8.25
-28V	0.84
-12V	0.36
-6V	0.18

5–7. PP–3743/FPA TEST Circuits Tests

a. Perform the procedure given in paragraph 5–6*a*(1), (2), and (3).

b. Set the PRIMARY POWER circuit breaker and the STANDBY POWER switch on the PP–3743/FPA panel to ON and be sure the AC POWER ON, the STANDBY POWER, and the BLOWER OPERATIVE lamps are illuminated.

c. The DC POWER READY lamp will be illuminated after a time delay of approximately 60 seconds from the time the STANDBY POWER switch is set to ON. The RUNNING TIME meter should be operating.

d. Set the DC POWER switch on PP–3743/FPA panel to ON, and be sure the PWR READY lamp on PP–3743/FPA TEST area of the AN/FPM–26 control panel is illuminated.

e. On PP–3743/FPA panel, set the DEFLECTION and ACCELERATION VOLTAGE switches to ON. The DEFLECTION VOLTAGE ON and ACCELERATION VOLTAGE ON lamps are illuminated.

f. Set the INT VOLTAGE TEST switch to TEST SET and the TEST SELECTOR switch to OFF.

g. Place the ME–26B/U FUNCTION and RANGE switches to + and 300V, respectively.

h. Connect the ME–26B/U DC and COMMON test leads to the ± (J27) and GRD (J28) test jacks, respectively, on the PP–3743/FPA TEST area of the AN/FPM–26 panel.

i. Rotate the TEST SELECTOR switch on the PP–3743/FPA TEST area to the successive positions listed in the chart below. Check to be sure the specified voltage reading is observed on the ME–26B/U.

TEST SELECTOR	Multimeter		Voltage reading
	FUNCTION	RANGE	
±DEFL	+	300V	+167 vdc ±7.5
-ACCEL A	–	100V	–64 vdc ±3.2
-ACCEL B	–	100V	–64 vdc ±3.2
-ACCEL C	–	100V	–64 vdc ±3.2
-ACCEL D	–	100V	–64 vdc ±3.2
-ACCEL E	–	100V	–64 vdc ±3.2

j. Turn off DC and AC PWR switches on AN/RPM–26 panel.

k. Disconnect Power Supply PP–3743/FPA from the AN/FPM–26.

5–8. PP–3741/FPA TEST Circuits Tests

Connect a Power Supply PP–3741/FPA to the AN/FPM–26 for bench servicing, following the procedures in TM 11–5840–263–35.

a. Set the TEST SELECTOR and LOAD switches to the OFF and LOW, respectively, on the PP–3741/FPA TEST area.

b. Connect the ME–26B/U DC and COMMON test leads to the ± and GRD test jacks, respectively, on the PP–3741/FPA TEST area.

c. Place the ME–26B/U FUNCTION and the RANGE switches to + and 300V, respectively.

d. Turn on Power Supply PP–3941/G. Set the voltage output and connect the PP–3941/G test leads to connector pins on the AN/FPM–26 successively as indicated in the chart below. Connect the positive lead to the pins listed in the chart. Check to be sure the specified voltage and current reading are observed on the ME–26B/U and PP–3941/G for each position of the LOAD and TEST SELECTOR switches.

Connection	Control settings		Results		
			PP–3941/G		ME–26B/U (volts dc)
Connector J8 and pin	LOAD switch	TEST SELECTOR	Voltage (volts dc)	Current (approx ma)	
J	LOW	OFF	150	83	0
K	LOW	OFF	150	83	0
L	LOW	OFF	150	83	0
J	LOW	+150 A	150	88	150
K	LOW	+150 B	150	88	150
L	LOW	+150 C	150	88	150
J	FULL	+150 A	100	168	100
K	FULL	+150 B	100	168	100
L	FULL	+150 C	100	168	100

e. TEST indicator lamp of PP–3741/FPA TEST area lights for each TEST SELECTOR position (A, B, and C) except OFF.

5–9. PP–3742/FPA TEST Circuits Tests

Connect a Power Supply PP–3742/FPA to the AN/FPM–26 for bench servicing, following the procedures in TM 11–5840–263–35.

a. Set the TEST SELECTOR and LOAD switches to OFF and LOW, respectively, on the PP–3742/FPA TEST area.

b. Connect the ME–26B/U DC and COMMON test leads to the ± and GRD test jacks, respectively, on the PP–3742/FPA TEST area.

c. Place the ME–26B/U FUNCTION and RANGE switches to the + or – and 1000V positions, respectively, when making positive or negative voltage readings.

d. Turn on Power Supply PP–3941/G. Set the voltage output, and connect the PP–3941/G test leads to the connector pins on the AN/FPM–26 successively, as indicated in the chart below. Check to be sure the specified voltage and current readings are observed on the ME–26B/U and PP–3941/G for each position of the LOAD and TEST SELECTOR switches.

Connection	Control settings		Results		
			PP–3940/G		ME–26B/U
Connector J4 and pin	LOAD switch	TEST SELECTOR	Voltage (volts dc)	Current (approx amp)	(volts dc)
h	LOW	OFF	+300	33	0
j	LOW	OFF	+300	33	0
k	LOW	OFF	+275	10	0
g	LOW	OFF	+275	10	0
e	LOW	OFF	–275	5	0
f	LOW	OFF	–275	18	0
X	LOW	+400V	+400	37	+400
h	LOW	+300V A	+300	36	+300
j	LOW	+300V B	+300	36	+300
k	LOW	+275V A	+275	12	+275
g	LOW	+275 B	+275	12	+275
e	LOW	–275 A	–275	7.5	–275
f	LOW	–275 B	–275	22	–275
X	FULL	+400V	+400	37	+400
h	FULL	+300V A	+300	100	+300
j	FULL	+300V B	+300	100	+300
k	FULL	+275V A	+275	35	+275
g	FULL	+275V B	+275	35	+275
e	FULL	–275V A	–275	17	–275
f	FULL	–275V B	–275	55	–275

e. The TEST indicator lamp of PP–3742/FPA TEST area lights for each TEST SELECTOR position except OFF.

5–10. PP–3744/FPA TEST Circuits Tests

Connect a Power Supply PP–3744/FPA to the AN/FPM–26, following the procedures in TM 11–5840–263–35.

a. Set the TEST SELECTOR and LOAD switches to OFF and LOW, respectively, on the PP–3744/FPA TEST area.

b. Connect the ME–26B/U DC and COMMON test leads between the VAC test jacks of the PP–3744/FPA TEST area.

c. Place the ME–26B/U FUNCTION and RANGE switches to DC and 10V, respectively.

d. Turn on Power Supply PP–3941/G. Connect the dc voltage output for 6.3-volt dc operation, and the DC test leads to both connector pins on the AN/FPM–26 successively, as indicated in the chart below. Check to be sure the specified voltage is observed on the ME–26B/U and PP–3941/G for each position of the TEST SELECTOR switch.

Connection	Control settings		Results		
			PP–3941/G		
Connector J4 and pins	LOAD switch	TEST SELECTOR	Voltage (volts ac)	Current (approx amp)	ME–26B/U (volts dc)
A and B	–	T4	6.3	1.5	6.3
C and D	–	T5	6.3	1.5	6.3
E and F	–	T6	6.3	1.5	6.3
G and H	–	T7	6.3	1.5	6.3
I and J	–	T8	6.3	1.5	6.3
K and L	–	T9	6.3	1.5	6.3

e. Test indicator lamp of PP–3744/FPA TEST area lights for each TEST SELECTOR position except OFF.

f. Disconnect the ME–26B/U test leads from the VAC jacks. Connect the DC and COMMON test leads to the – and GRD test jacks, respectively, on the PP–3744/FPA TEST area.

g. Place the ME–26B/U FUNCTION and RANGE switches to – and 100V, respectively.

h. Turn on Power Supply PP–3940/G. Set the voltage output and connect the PP–3940/G test leads to the connector pins, as indicated in the chart below. Check to be sure the specified voltage and current readings are observed on the ME–26B/U and the PP–3940/G for each position of the LAMP/–28V LOAD and the TEST SELECTOR switches.

Connection	Control settings		Results		
			PP–3940/G		
Connector J4 and pin	LOAD switch	TEST SELECTOR	Voltage (volts dc)	Current (approx amp)	ME–26B/U (volts dc)
a	LOW	LAMP	–26	1.6	–26
a	FULL	LAMP	–26	3.0	–26
d	LOW	–28V	–28	1.1	–28
d	FULL	–28V	–28	2.2	–28

i. TEST indicator lamp of PP–3744/FPA TEST area lights for both TEST SELECTOR positions (*h* above).

5–11. PP–3745/FPA TEST Circuits Tests

Connect a Power Supply PP–3745/FPA for bench servicing, following the procedures in TM 11–5840–263–35.

a. Set the TEST SELECTOR to OFF and the + and – LOAD switches to LOW on the PP–3745/FPA TEST area.

b. Connect the ME–26B/U DC and COMMON test leads to the + and GRD test jacks, respectively, in the PP–3745/FPA TEST area.

c. Place the ME–26B/U FUNCTION and RANGE switches to + and 30V, respectively.

d. Turn on Power Supply PP–3940/G. Set the voltage output, and connect the PP–3940/G test leads to connector pins on the AN/FPM–26 successively, as indicated in the chart below. Check to be sure the specified voltage and current readings are observed on the ME–26B/U and PP–3940/G for each position of the + LOAD and TEST SELECTOR switches. Note that the + TEST indicator lamp of PP–3745/FPA TEST area lights for each TEST SELECTOR position except OFF.

Connection	Control settings		Results		
			PP–3940/G		
Connection J8 and pin	+LOAD switch	TEST SELECTOR	Voltage (volts dc)	Current (approx amp)	ME–26B/U (volts dc)
E	LOW	+6V A	+6	0.1	+6
F	LOW	+6V B	+6	0.1	+6

Connection	Control settings		Results		
			PP–3940/G		ME–26B/U
Connector J8 and pin	+LOAD switch	TEST SELECTOR	Voltage (volts dc)	Current (approx amp)	(volts dc)
G	LOW	+6V C	+6	0.1	+6
H	LOW	+6V D	+6	0.1	+6
E	FULL	+6V A	+6	0.35	+6
F	FULL	+6V B	+6	0.35	+6
G	FULL	+6V C	+6	0.35	+6
H	FULL	+6V D	+6	0.35	+6
h	LOW	+12V A	+12	0.4	+12
j	LOW	+12V B	+12	0.4	+12
k	LOW	+12V C	+12	0.4	+12
h	FULL	+12V A	+12	0.67	+12
j	FULL	+12V B	+12	0.67	+12
k	FULL	+12V C	+12	0.67	+12

e. Disconnect the ME–26B/U DC test lead from the + test jack and connect it to the – test jack on the PP–3745/FPA TEST area.

f. Place the ME–26B/U FUNCTION switch to –.

g. With Power Supply PP–3940/G turned on, set the voltage output and connect the PP–3940/G test leads to the connector pins on the AN/FPM–26 successively, as indicated in the chart below. Check to be sure the specified voltage and current readings are observed on the ME–26B/U and PP–3940/G for each position of the –LOAD and TEST SELECTOR switches. Note that the –TEST indicator lamp of PP–3745/FPA TEST area lights for each TEST SELECTOR position except OFF.

Connection	Control settings		Results		
			PP–3940/G		ME–26B/U
Connector J8 and pin	–LOAD switch	TEST SELECTOR	Voltage (volts dc)	Current (approx amp)	(volts dc)
A	LOW	–6V A	–6	0.2	–6
B	LOW	–6V B	–6	0.2	–6
C	LOW	–6V C	–6	0.2	–6
D	LOW	–6V D	–6	0.2	–6
A	FULL	–6V A	–6	0.5	–6
B	FULL	–6V B	–6	0.5	–6
C	FULL	–6V C	–6	0.5	–6
D	FULL	–6V D	–6	0.5	–6
a	LOW	–12V A	–12	0.4	–12
b	LOW	–12V B	–12	0.4	–12
c	LOW	–12V C	–12	0.4	–12
d	LOW	–12V D	–12	0.4	–12
a	FULL	–12V A	–12	0.67	–12
b	FULL	–12V B	–12	0.67	–12
c	FULL	–12V C	–12	0.67	–12
d	FULL	–12V D	–12	0.67	–12

Section III. ALTERNATE PROCEDURES

5–12. General

This section provides alternate methods of testing the internal dc power supplies and the high-voltage loading circuits of the AN/FPM–26 *when a Power Supply PP–3743/FPA is not available.* If such a power supply is available, use the test procedures given in paragraphs 5–5 through 5–11. The alternate test

procedures involve the use of locally fabricated test cables and a test fixture, Cable Assembly Kit MK–753/FPA, a source of 1,500 volts dc at 350 ma, Power Supply PP–3937/FPA (instead of Power Supply PP–3743/FPA), and Transformer, Power, Voltage Regulating TF–476/FPA. Dynamic tests of circuits other than those listed above are to be performed in accordance with the procedures given in paragraphs 5–5 through 5–11.

5–13. Test Setup

To prepare the AN/FPM–26 for testing in accordance with the instructions given in paragraphs 5–15 through 5–17, the unit must be connected to the test fixture described in paragraph 5–14; to Transformer, Power, Voltage Regulating TF–476/FPA; and to Power Supply PP–3937/FPA. Only a source of +1,500 volts dc at 350 ma is required when performing the procedure given in paragraph 5–18. Power Supply PP–3938/G is also required to operate the PP–3937/FPA. The various connections are as follows:

a. Connect Power Supply PP–3938/G to a source of 120 volts ac.

b. Use the locally fabricated cable (fig. 5–1) to connect Power Supply PP–3937/FPA to the PP–3938/G and to a source of 120 volts ac.

c. Connect the locally fabricated resistive load circuit (para 5–14), to PP–3743/FPA jack J7 on the AN/FPM–26.

d. Connect cable W7 of Cable Assembly Kit MK–753/FPA to 115 VAC jack J1 on the AN/FPM–26 and a source of 115 volts ac.

e. Connect cable W9 of the MK–753/FPA to TF–476/FPA OR TF–171/USM jack J3 on the AN/FPM–26 and Transformer, Power, Voltage Regulating TF–476/FPA.

f. Connect the PP–3937/FPA to the AN/FPM–26 as described in the individual procedures given in paragraph 5–17, using the appropriate locally fabricated test cables (fig. 5–2).

5–14. Test Fixture Fabrication

Resistive leading circuits must be available to properly test the internal dc power supplies of the AN/FPM–26. A schematic diagram of a test fixture containing such resistive loads is shown on figure 5–3. The components should be physically mounted on a metal chassis. A shield should cover the components to prevent possible injury to personnel when power is applied.

5–15. Checking Dc Output Voltages

With the test setup described in paragraph 5–13, and neither a PP–3937/FPA nor a source of +1,500 volts dc at 350 ma connected to the AN/FPM–26, check the outputs of the internal dc power supplies as follows:

a. Place the AC PWR circuit breaker to ON.

b. After the DC READY indicator lamp lights, place the INT VOLTAGE TEST switch in the PP–3743/FPA TEST portion of the AN/FPM–26 front panel to +300V.

c. Place the ME–26B/U FUNCTION switch to +. Place the RANGE switch to 1000V.

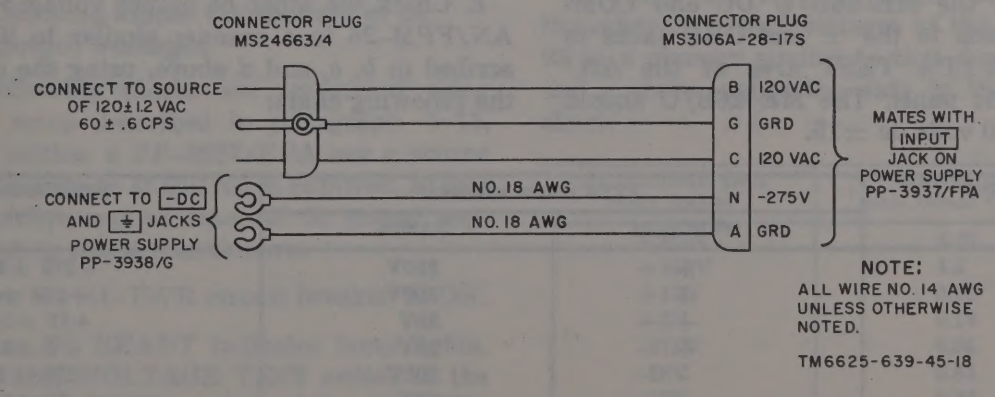


Figure 5–1. Locally fabricated power cable, schematic diagram.

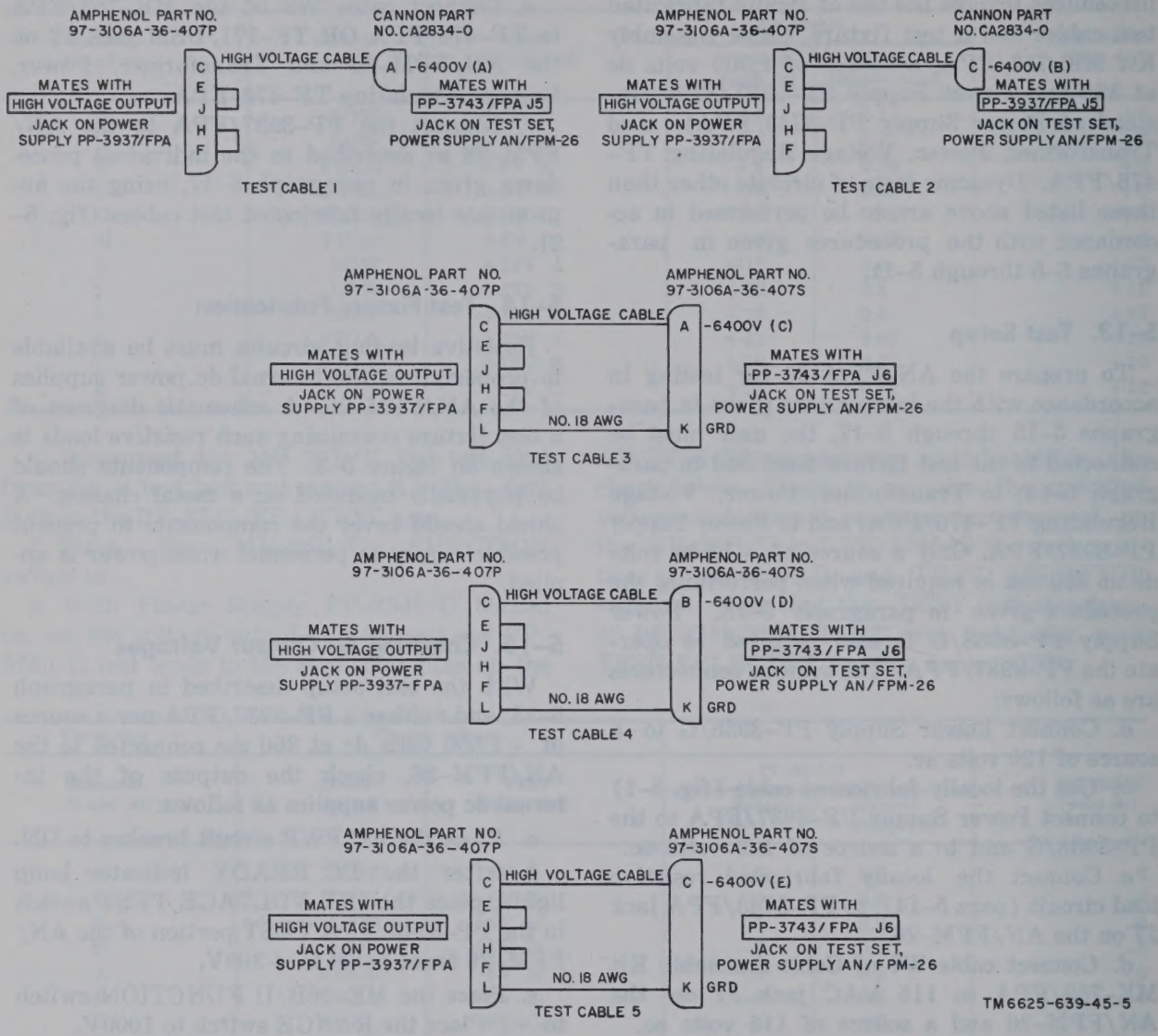


Figure 5–2. Locally fabricated test cables, schematic diagram.

d. Connect the ME–26B/U DC and COMMON test leads to the ± and GRD jacks in the PP–3743/FPA TEST area of the AN/FPM–26 front panel. The ME–26B/U should indicate +300 volts dc ±15.

e. Check the other dc output voltages of the AN/FPM–26 in a manner similar to that described in *b*, *c*, and *d* above, using the data in the following chart:

INT VOLTAGE TEST switch position	VTVM control settings		VTVM indication (volts)
	FUNCTION	RANGE	
+275V	+	300V	+275 ±14
+150V	+	300V	+150 ±8
+12V	+	30V	+12 ±0.6
+6V	+	10V	+6 ±0.5
-275V	-	300V	-275 ±14
-28V	-	30V	-28 ±1.5
-12V	-	30V	-12 ±0.6
-6V	-	10V	-6 ±0.5

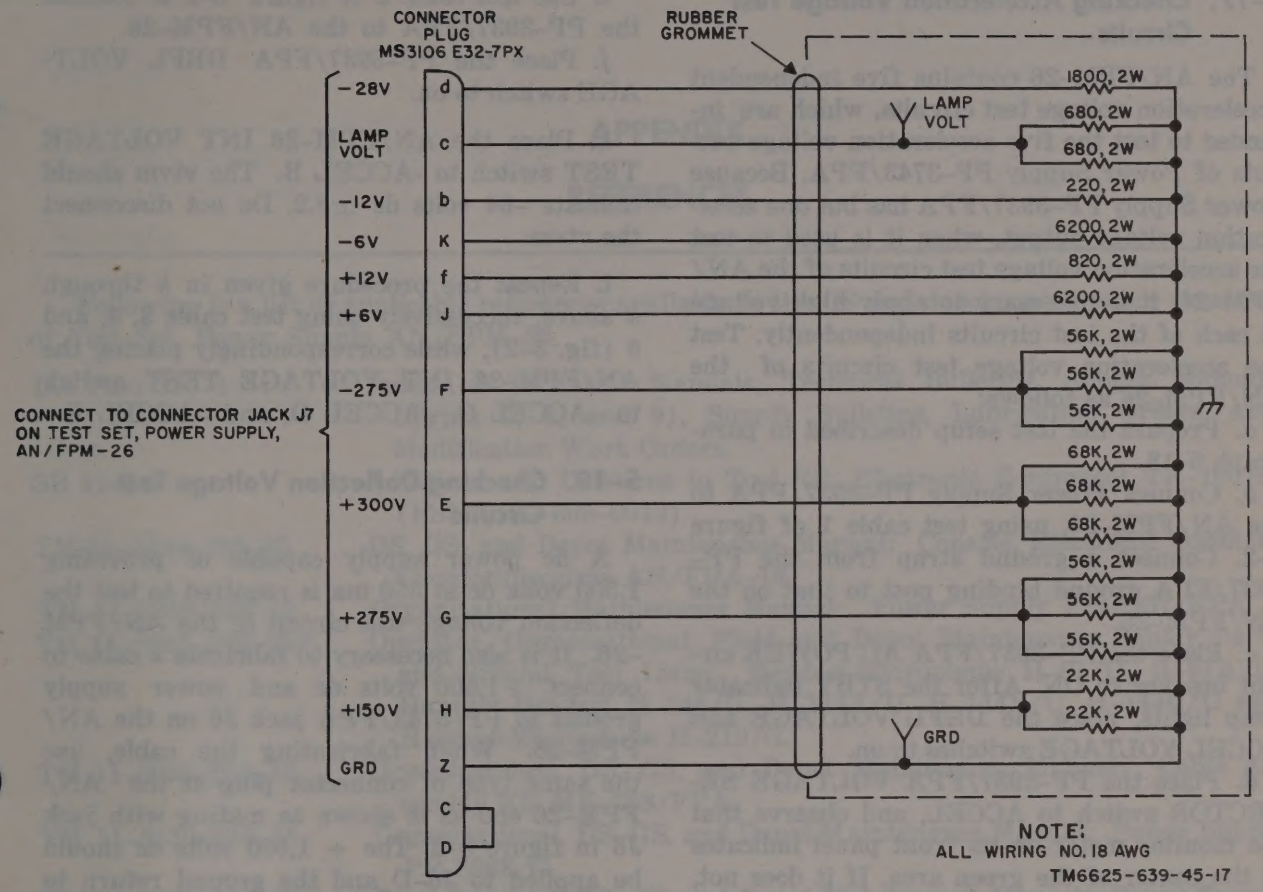


Figure 5–8. Test fixture fabrication, schematic diagram.

f. Place the vtvm FUNCTION switch to – and the RANGE switch to 30V.

g. Connect the vtvm DC and COMMON test leads to the LAMP VOLT and GRD jacks, respectively, on the test fixture. The vtvm should indicate –26 ± 1.5 volts dc.

5–16. Checking Ripple Component of Dc Output Voltages

The following checks are performed using the test setup described in paragraph 5–13, through neither a PP–3937/FPA nor a source of +1,500 volts dc at 350 ma is required. Ripple voltage component of internal dc power supply outputs is checked as follows:

a. Place the AC PWR circuit breaker to ON.

b. After DC READY indicator lamp lights, place the INT VOLTAGE TEST switch in the PP–3743/FPA TEST portion of the AN/FPM –26 front panel to +300V.

c. Connect the test probe of Oscilloscope AN/USM–81 to the ± and GRD jacks in the PP–3743/FPA TEST portion of the AN/FPM–26 front panel. Amplitude of ripple voltage observed on the oscilloscope should not exceed 9 volts peak-to-peak.

d. Check the ripple voltage component of the other dc output voltages of the AN/FPM–26 in a manner similar to that described in *b* and *c* above, using the data in the following chart:

INT VOLTAGE TEST switch position	Maximum permissible ripple voltage (peak-to-peak)
+275V	8.25
+150V	4.5
+12V	0.36
+6V	0.18
–275V	8.25
–28V	0.84
–12V	0.36
–6V	0.18

5-17. Checking Acceleration Voltage Test Circuits

The AN/FPM-26 contains five independent acceleration voltage test circuits, which are intended to test the five acceleration voltage outputs of Power Supply PP-3743/FPA. Because Power Supply PP-3937/FPA has but one acceleration voltage output, when it is used to test the acceleration voltage test circuits of the AN/FPM-26, it is necessary to apply high voltage to each of the test circuits independently. Test the acceleration voltage test circuits of the AN/FPM-26 as follows:

a. Prepare the test setup described in paragraph 5-13.

b. Connect Power Supply PP-3937/FPA to the AN/FPM-26, using test cable 1 of figure 5-2. Connect a ground strap from the PP-3937/FPA ground binding post to that on the AN/FPM-26.

c. Place the PP-3937/FPA AC POWER circuit breaker to ON. After the STBY indicator lamp lights, place the DEFL VOLTAGE and ACCEL VOLTAGE switches to on.

d. Place the PP-3937/FPA VOLTAGE SELECTOR switch to ACCEL, and observe that the monitor meter on its front panel indicates in the center of the green area. If it does not, adjust the ACCEL VOLT ADJUST control for an exact midscale indication.

e. In the PP-3743/FPA TEST area of the AN/FPM-26 front panel, place the INT VOLTAGE TEST switch to TEST SEL and the TEST SELECTOR switch to -ACCEL A.

f. Place the ME-26B/U FUNCTION switch to – and the RANGE switch to 100V.

g. Connect the ME-26B/U DC and COMMON test leads to the ± and GRD test jacks, respectively, on the PP-3743/FPA TEST area of the AN/FPM-26 front panel. The vtvm should indicate –64 volts dc ±3.2. Do not disconnect the vtvm.

h. Place the PP-3937/FPA DEFL VOLTAGE switch to OFF. This removes all dangerous dc potentials from the HIGH VOLTAGE OUTPUT jack.

i. Use test cable 2 of figure 5-2 to connect the PP-3937/FPA to the AN/FPM-26.

j. Place the PP-3937/FPA DEFL VOLTAGE switch to on.

k. Place the AN/FPM-26 INT VOLTAGE TEST switch to -ACCEL B. The vtvm should indicate –64 volts dc ±3.2. Do not disconnect the vtvm.

l. Repeat the procedure given in *h* through *k* above, successively using test cable 3, 4, and 5 (fig. 5-2), while correspondingly placing the AN/FPM-26 INT VOLTAGE TEST switch to –ACCEL C, –ACCEL D, and –ACCEL E.

5-18. Checking Deflection Voltage Test Circuits

A dc power supply capable of providing 1,500 volts dc at 350 ma is required to test the deflection voltage test circuit of the AN/FPM-26. It is also necessary to fabricate a cable to connect +1,500 volts dc and power supply ground to PP-3743/FPA jack J6 on the AN/FPM-26. When fabricating the cable, use the same type of connector plug at the AN/FPM-26 end as is shown as mating with jack J6 in figure 5-2. The + 1,500 volts dc should be applied to J6-D and the ground return to J6-K of the AN/FPM-26. Once the AN/FPM-26 is connected to the +1,500-volt source, proceed as follows:

a. Activate the +1,500-volt dc source.

b. In the PP-3743/FPA TEST area of the AN/FPM-26 front panel, place the INT VOLTAGE TEST switch to TEST SEL and the TEST SELECTOR switch to +DEFL.

c. Place the ME-26B/U to FUNCTION switch to + and the RANGE selector switch to 300V.

d. Connect the vtvm DC and COMMON test leads to the ± and GRD jacks, respectively, in the PP-3743/FPA TEST area of the AN/FPM-26 front panel. The vtvm should indicate +150 volts dc ±20.

APPENDIX

REFERENCES

Following is a list of applicable references available to the GS and depot maintenance personnel of Test Set, Power Supply AN/FPM–26.

DA Pam 310–4	Index of Technical Manuals, Technical Bulletins, Supply Manuals (Types 7, 8, and 9), Supply Bulletins, Lubrication Orders, and Modification Work Orders.
SB 11–549	Additions and Deletions to Tool Kit, Electronic Equipment TK–100/G (FSN 5180–605–0079).
TM 11–5840–263–35	DS, GS, and Depot Maintenance Manual: Console, Electronic Counter-Countermeasures AN/FPA–16.
TM 11–5840–308–12	Organizational Maintenance Manual: Power Supply PP–3937/FPA.
TM 11–5965–206–15P	Operator, Organizational, Field and Depot Maintenance Repair Parts and Special Tool Lists: Headset-Microphone H–91/U, H–91A/U, Handset-Headset H–144/U, H–144A/U, H–144B/U, H–144C/U and Headset-Microphone H–210/G.
TM 11–5995–204–15	Organizational, DS, GS, and Depot Maintenance Manual: Cable Assembly Kit MK–753/FPA.
TM 11–6130–240–15	Organizational, DS, GS, and Depot Maintenance Manual: Power Supply PP–3938/G.
TM 11–6130–242–15	Organizational, DS, GS, and Depot Maintenance Manual: Power Supply PP–3941/G.
TM 11–6130–247–15	Organizational, DS, GS, and Depot Maintenance Manual: Power Supply PP–3940/G.
TM 11–6625–200–12	Operator and Organizational Maintenance Manual: Multimeters ME–26A/U, ME–26B/U, and ME–26C/U.
TM 11–6625–219–12	Organizational Maintenance Manual: Oscilloscope AN/USM–81.
TM 11–6625–639–12	Organizational Maintenance Manual: Test Set, Power Supply AN/FPM–26.
TM 11–6625–639–20P	Organizational Maintenance Repair Parts and Special Tools List: Test Set, Power Supply AN/FPM–26.
TM 11–6625–639–45P	GS and Depot Maintenance Repair Parts and Special Tools List: Test Set, Power Supply AN/FPM–26.

By Order of the Secretary of the Army:

HAROLD K. JOHNSON,
General, United States Army,
Chief of Staff.

Official:

KENNETH G. WICKHAM,
Major General, United States Army,
The Adjutant General.

Distribution:

To be distributed in accordance with DA Form 12-32, Section III requirements for direct and general support maintenance literature (unclassified) for the AN/FPA-15 and AN/FPA-16.

☆ U. S. GOVERNMENT PRINTING OFFICE: 1966—254438/90